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MASSACHUSETTS PLOUGHMAN



AGRICULTURE

JOURNAL OF

VOL. LXIII. - NO. 16

BOSTON, MASS., SATURDAY, JANUARY 9 1904

WHOLE NO. 3232

MASSACHUSETTS PLOUGHMAN
NEW ENGLAND JOURNAL OF AGRICULTURE
Official Organ of the N. E. Agricultural Society.

MASSACHUSETTS PLOUGHMAN PUB. CO.
Publishers and Proprietors.

ISSUED WEEKLY AT

NO. 5 STATE STREET,
Boston, Mass.

TERMS:

\$2.00 per annum, in advance. \$2.50 if not paid in advance. Postage free. Single copies 5 cents. All correspondence intended for publication must be signed by the writer's name, not necessarily for publication, but as a guarantee of good faith. All correspondence intended for the waste-basket. All matter intended for publication should be written on note size paper, with ink, and upon one side only.

Correspondence from practical farmers, giving the results of their experience, is solicited. Letters should be signed with the writer's real name, in full, which will be printed or not, at the writer's may wish.

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The Popular Jerseys.

In the establishment of this breed on the island, from which it takes its name, the work was conducted very systematically to produce uniformity of type and bovine beauty. In establishing the ideal, two representative animals were chosen for example, and the scale of points adopted was made a combination of these. The early breeders adhered very closely to color, markings and type, but the modern breeder has lessened the attention towards these by breeding more strictly for utility as a butter producer.

The foundation stock for the Jersey represented chiefly by those on the island at the present time are noted specially for the deer-like appearance of their heads, fine, slim necks, light shoulders, deep through narrow fore quarter, large bodies with abundant capacity, lean hindquarters, and more particularly for the beautiful appearance of the udder in fullness and placing of the teats. Since the introduction of a system of testing, the indications which give power of production have been balanced to some degree the fine discriminations which existed as to the general color and markings of nose, tongue and switch. The modern type may be of broken color, or lack in the fancy points referred to, but it has the ability for larger butter production more intensified, as the frame is inclined to show more strength and the general form more ruggedness of constitution. While the type should show the angular form which is conducive to the highest butter production, yet those features which contribute to beauty, the head and neck, should not be wholly without the graceful, neoplastic so characteristic of the breed.

The illustration, reproduced by permission of secretary C. J. Bell of Vermont, depicts a scene on the Billings Farm at Woodstock, Vt. Some of the animals in this herd are to be shown at the St. Louis Exposition.

The Manure in Winter.

On well-managed farms the manure is no longer thrown out-of-doors to freeze up or waste from the effects of the weather. This method, wherever practiced, makes more work in drawing, as well as reduces the value of the manure.

Quite a proportion of the large dairy barns in Vermont have stables wide enough to admit of holding the manure for several weeks at a time. This is a very convenient arrangement so far as labor is concerned, but it may not be the best in other ways.

Where it is practicable, there should be plenty of room and some system of ventilation adopted that will insure a good atmosphere. I think that this can be done by having ventilating tubes or flues extending from near the floor next to the back side of the stable and extending up through the roof. From our own experience, such a system appears to work well, and there is very good air in the stable.

But where manure is thus kept in the stable, it should be frequently removed. Some practice drawing every few days, and this will prevent any large accumulation and be more satisfactory every way. Some farmers object to having manure in the stable, but keep it either in a cellar underneath or in a building adjoining. This adds to the labor of cleaning the stables, but does away with the objection of having the manure in them.

As to what to do with the manure in winter, the practice is now very generally in favor of drawing directly to the field where wanted and spreading at once. This method is being followed more and more as the years go by. At first there was a good deal of opposition to this plan, as the writer well knows, but after the experience of years it is coming to be understood that the supposed loss from such practice is indeed small, if any, while the advantages are altogether in its favor.

It used to be the practice to draw and put in small piles—four to six to a load—where wanted, and then spread in spring, but this was a very poor method and very few instances are noticed where this is now done. Where the manure is spread as drawn, the work can be well done and then as early in spring as practicable, without the previous hauling of manure on the soft ground, the other spring work can be attended to. There may be some locations where it would not be advisable to spread manure in winter, but farmers can determine this for themselves.

Some of the manure may be too coarse or strawy to spread on the surface and harrow in to advantage. Such would be better plowed under. Again, some farmers may prefer plowing under manure for certain crops, as corn, for instance, on greenward just before planting, when there will be quite an amount of vegetation to turn

under. In this case the manure can be drawn and spread during the winter and up to any time before plowing, but the earlier the better, as it would then become well pressed down among the grass roots by snow and rain, and thus produce the best results.

Where this method of drawing and spreading the manure is practiced, so long as the snow remains on the ground, there will not be any large amount to move in spring, and the usual work of the season will be thus far advanced.

Franklin County, Vt. E. R. TOWLE.

Success with Field Peas.

At the present time the Canada pea is being grown to perfection and unmolested by the "bug" or weevil that has so long devastated this product over here in the States. At the same time, serious apprehension exists among Canadian farmers that they will be obliged to abandon the cultivation of this product, owing to the injurious effects of this pest, where for many years it has proved one of the most profitable crops for commercial purposes.

Consequently, it may not be well for farmers on this side of the "line" who practice a mixed system of farming to include the field pea as one of the staple crops in their farm rotation. The fact is in its favor also that with many nearly or quite all of their corn at the present time finds its place in the silo.

The past and previous year's experience in growing this crop has encouraged me to believe that for feeding to hogs intended for the earlier markets it has no superior. Its early ripening makes it available for feeding four to six weeks before our corn crop is sufficiently matured for this purpose. Seemingly, no other crop requires more simple or easy methods of cultivation, or is attended with so little expense until time of harvest. The conditions of soil most favorable for its growth seem to be those naturally adapted for growing corn, and where some hoed crop had been grown the previous season.

Prepare the ground and sow the seed, two bushels per acre, with drill as early in the season as it can be well done, at the same time using 150 or 175 pounds phosphoric acid phosphate per acre. The ground should then be well rolled down, thus leaving it smooth and free from lumps and small clods, which treatment will be found to contribute much to the convenience and pleasure in the work of harvesting.

To prevent shelling, harvesting should be done before the grain becomes overripe, using the old-fashioned, wooden revolving horse-rake, if one is so fortunate as to have one, but if not the old way of rolling into bunches with the scythe can be resorted to, or in other instances it is said that the mowing machine can be profitably used. The horse-rake being used, one should commence on the side of the field where the rake will run opposite the direction the vines naturally lean or lodge. The limit of each raking should be the size of an ordinary forkful, and the return bout should be over the ground last raked, at the same time moving each raking just far enough to loosen the vines remaining underneath. A man following with a fork moves each one a few feet away, when all is ready for another "bout." From four to six acres can in this manner be easily harvested per day. When sufficiently cured they are usually drawn and stacked at some convenient point for feeding. But a more economical course it seems would be to thresh with machine designed for the purpose, as in Canada, thus preserving and utilizing the vines for feeding to sheep and horses more especially.

Another important feature connected with the cultivation of this crop is worthy of notice. It is well known by those of experience that with the other crops that are usually followed by winter wheat it is seldom that good results are attained as those when preceded by the field pea. Its early maturity allows ample time, the mulch of vines aiding materially in preparing a reasonable and perfect seedbed. This fact, together with its acknowledged ability as a nitrogen gatherer, partially explains, I suppose, why the field pea is so favorable in its effect upon the following crops.

IRVING D. COOK.

The Process.

As soon as the milk is brought from the stable it is strained into a large tub, preferably tin, and stirred until the right temperature, from 84° to 86°. The rennet, such as our grandmothers used, has been almost entirely superseded by rennet tablets, which can be bought by the dozen or hundred, and are always of uniform strength. The present way is much easier and safer.

Dissolve these tablets, using one No. 2 tablet for each one hundred pounds of milk, in cold water, and pour the solution into the milk, stirring vigorously for two or three minutes. Cover the tub with cheese-cloth and let stand until firm, which should not be over forty minutes. If the milk thickens too quickly add less rennet. When firm, cut with wooden slice in two-inch squares, and leave covered over night until the whey rises on top.

Place the draining basket which may be of tin or wood over the whey tub and dip the contents of the milk tub into this cheese-cloth placed thereon. Stir occasionally until quite dry, after which it is cut in thin pieces into the milk tub and warmed with water or whey to 98°. The length of time for sealing the curd has been a point much discussed, but it is generally conceded that twenty-five to thirty minutes at 98° or fifteen minutes at 100° will give the best results. After the sealing, it should be again placed in the basket and drained, then cut with knives or curd grinder and salted. The amount of salt used is also a much discussed question. Some makers claim that too much salt will make cheese hard and poor in quality, others that an extra amount should be used in very hot weather to prevent the cheese from melting. Experience has taught us that five ounces to each one hundred pounds milk is a good rule, using a little less in cool weather and a trifle more when very hot and sultry.

After the salted curd is placed in the hoop to press, no weight should be used for at least one hour; after that a gradual pressure for several hours and the heaviest weight the last twelve hours.

We usually have the cheese in press about 2 P. M., and take them out to turn just at night. The work can be finished in less time, but at a loss in the quality of the cheese.

I find the thinnest bleached sheeting the best for press cloths. Care should be taken that these and the draining are kept clean, and all utensils used scalped daily. The hoops may be of tin or wood, and the presses as cheap or expensive as one wishes. I prefer tin utensils where possible.

GOOD SUCCESS WITH OLD METHODS.

Our method of making cheese will, without doubt, seem old fashioned to up-to-date cheese manufacturers, and so it is. We

know nothing of the modern way except by reading, and we learned the same process our grandmothers used. But as the cheeses proved good and very salable, and knowing no other way, we have continued in the same routine trying each year to improve by experience.

Formerly all cheeses made were kept at least a year before being placed on the market, but now new cheese is in more demand and yields more profit to the maker.

PROFIT FROM SPRING MILK.

Few farmers' wives in New Hampshire make cheese, but if they realized that they could make from thirty to fifty per cent, more by so doing than to make butter, they would be ready for a change. Butter is usually low in summer and especially in late spring, but cheese can be made then the best of any time.

One must expect some failures, but do not get discouraged. Watch the process carefully, noting what effects certain conditions of the milk or curd have on the cheese and avoid making the same mistake twice if possible. We will give one process of

taken from the press, and rub and turn them every day until cured. If very soft bind with thin cloth, but usually this is not necessary.

CURING.

A small cheese from eight to thirteen pounds can be cured enough for home market in from three to six weeks, and is usually more profitable considering the work, but larger ones are better if to be kept several months. Keep the curing-room as cool as possible and free from insects. Lining the room with building paper and ceiling it is quite effective, but a cold air duct would be better. This duct should be placed deeply enough in the ground and long enough to cool the air decidedly before entering the room, thus reducing the temperature greatly. Tubes of ice placed in the room during a very hot period do considerable good. If your cheese melts, my advice would be sell as soon as possible.

MAKE THE BEST.

Do not make the mistake of thinking any milk will do for cheese. Keep cows of

The junipers can be burned without cutting, and the boys enjoy the task. Cut the pines close to the ground or the lower limbs will live and grow. While clearing off the fowl growth the walls and fence should be inspected. Probably some of them were injured by nutting parties, hunters and other trespassers, and most of the repairing can be done at this season.

THE ORCHARD.

Tree pruning is in season in good weather. The young fruit trees in particular should not be neglected, since a very little attention every year will keep them right, while a wrong start cannot easily be repaired. It is a simple matter to go over the orchards neatly cutting and sawing away the interfering, deformed or overcrowded growth, keeping the tree shapely, open and well balanced.

THE HOMESTEAD.

Shade trees about the house should be trimmed of dead, broken wood and the litter beneath taken away. Take a good look at the fences and gates around the barn lot, and do what is needed. A supply of extra posts should be got out from the woodlot. Some farm premises have a vast amount of rubbish lying around in the shape of old wheels, worn-out machines, old carts, wagon bodies and the like, which give the place a shiftless look, and which are mostly of no value, except perhaps at an auction, on which occasions there is always somebody who will bid a few cents for any sort of rubbish. Many a farmer who would become very angry or demand a good price for storage if a neighbor should dump such stuff on the premises, will inflict the nuisance upon himself for years and buy more rubbish at every auction. There is, of course, always the chance that some of it will be useful in making repairs, but the possibility is really not worth the nuisance. That which is valuable should be provided shed room. The rest, after taking out good bolts, braces, etc., should go to the woodpile or the junk dealer. Speaking of junk, it is likely that the blacksmith will pay more for the scrap iron than will the traveling junk buyer. It takes some nerve to clear up the accumulated rubbish as it should be done, but the result will brace up the owner and increase his self-respect.

PAINT AND REPAIRS.

A good piece of indoor work for storm weather is to oil or paint the farm implements and wagons. Crude petroleum is good both for iron and woodwork, using two coats for the wood. If paint is used, don't buy the cheap ready mixed stuff sometimes urged for sale, but choose good lead and oil and mix or have the local painter do the mixing to order. If buildings are to be painted soon the scraping may be done any time, and the blinds taken indoors and scraped and painted.

GET MORE ICE.

Large quantities of ice were cut last month, and considerable more will be put away in January. Some small ponds will be cut over twice. To secure quick freezing turn off the entering stream as soon as the pond is full, thus keeping the water still. The harvesting should be done when the weather is fairly cold, so that the cakes will go dry into storage. The ice should never be dumped in a heap, but packed with reasonable care to avoid air holes.

THE POULTRY YARD.

Have the roosting place snug, warm and not too large. At night, warmth in winter is more important than ventilation, but the fowls should be in the open air about all day, unless the weather is stormy. Where snow has fallen, it will pay to clear of a space in front of the houses or to dig a path to the covered farmyard or manure shed. To get eggs, feed plenty of animal food and hang beets and cabbages where the birds can pick at them. Have the litter dry and at least four inches deep on the floor and feed all the whole grain in the litter. Those who sell eggs for hatching will begin to have quite a demand for incubator eggs in February and should see that the breeding hens are sorted and mated this month. Eggs kept in a good cellar will hatch well three weeks after laid, so that eggs may be saved quite a period ahead of the expected sale. It is not necessary to turn them daily while in storage, as sometimes advised.

During the usual periods of freeze and thaw in quick succession, such as often occur the last part of the month, there may be some trouble from roup. As a general thing it does not pay to doctor a sick hen. But roup is more easily controlled than most diseases. The main thing is to keep the fowls from spreading by the sick ones as soon as they begin to wheeze and show swollen heads or discharges about the face. Put them in a dry, sunny room. Many preparations are used for treatment, but kerosene applied to the head part and passages with a fountain-pen filler, is simple and as good as anything. It will help the mild cases recover. The severe cases, whether they recover or not, are seldom worth keeping afterwards.

THE PEST OF RATS.

Not much snow has fallen in many localities, and a good deal of outdoor work can be done aside from the chores and the woodlot. A task that calls loudly for performance on many farms is to clear up the pastures and fence rows of bushes and useless trees. They will sprout worse if cut now than if attacked during the growing season, but with many farmers it is a case of now or never. Evergreen trees will, of course, not sprout under any conditions. Many pastures infested with small sallows, dwarf juniper and pines would be much the better for the use of axe, bush hook and torch.

VERY USEFUL WORK.

Not much snow has fallen in many localities, and a good deal of outdoor work can be done aside from the chores and the woodlot. A task that calls loudly for performance on many farms is to clear up the pastures and fence rows of bushes and useless trees. They will sprout worse if cut now than if attacked during the growing season, but with many farmers it is a case of now or never. Evergreen trees will, of course, not sprout under any conditions. Many pastures infested with small sallows, dwarf juniper and pines would be much the better for the use of axe, bush hook and torch.

sore feet to rats which step in it, and sometimes drives them from the buildings, but it cannot be used where other animals may come. Good cats will catch many of the rats, and should be kept in the barn and sheds at night. Terrier dogs or ferrets will often do good work where rats are very numerous.

Under ordinary conditions, however, a spring trap properly set will do the most thorough work. A few days previous to beginning, throw down some chaff and fine litter near the holes where the rats appear. Set the traps at evening after shutting away cats, dogs and fowls. Set very lightly bait with corn or meat and cover in the litter. Remove rats caught as soon as possible. In some locations the traps may be left through the day, setting them inside a box with enough meal and chaff in it to cover the traps. Locations of traps should be frequently changed. Use traps with three-inch jaws, a moderately strong spring and fasten with a chain. There should be no oil paint or bright metal about it. Some recommend oil of rhodium to be put on the bait, but it is costly and apparently of no special use.

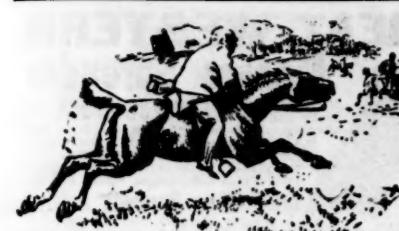
The Rhode Island Club.

At the annual meeting of the Rhode Island Red Club, held in Lawrence, Mass., Dec. 10, the following officers were elected: President, Hon. C. M. Bryant; Vice-Presidents, Dr. N. B. Aldrich, Thomas Hollis and D. P. Shove; Executive Committee, Dr. N. B. Aldrich, P. R. Parks, H. W. Gunstan, V. L. Bradford, George P. Coffin, C. M. Bryant and W. J. Drisko; Secretary and Treasurer, W. J. Drisko; Honorary Vice-Presidents, I. F. Clark, Maine; L. Robbins, New Hampshire; S. Daniels, Vermont; J. Crowther, Massachusetts; C. M. Allen, Rhode Island; R. C. Tuttle, Connecticut; C. Smith, New York; A. C. Richardson, Indiana; E. L. Morse, Illinois; D. J. Martin, Kansas; C. C. Reid, Ohio; L. L. Conn, Michigan; H. C. West, Iowa; R. Rowbotham, Utah; R. F. Smith, Missouri; D. H. Funston, Pennsylvania; E. B. McNair, Delaware; A. C. Harris, North Carolina; A. H. Ruelle, Washington; J. M. Maxwell, New Jersey; R. McC. Griffey, Maryland; W. A. Shepard, Colorado; A. G. Searing, Wisconsin; E. R. Holman, California.

The executive committee were instructed to procure for the coming season suitable club ribbons to be placed at their discretion among the various poultry associations and open only to competition of club members in good standing. It was also voted to authorize the executive committee to issue a club catalogue, containing a list of members with addresses, the standard adopted by the club, as much general information on the history, development, characteristics, mating, breeding and judging the breed as seems advisable and as much advertising matter as possible. On motion of Vice-President Reid of Ohio it was voted to instruct the executive committee to arrange specials for the St. Louis Exposition. Mr. Reid gave \$10 as a starter for a subscription fund.

President Bryant's report regarding the steps already taken toward the admission of the single comb Rhode Island Reds to the standard was very encouraging, and the hope was expressed that there would be a large entry of the single comb Reds at Rochester at the next meeting of the American Poultry Association.

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CHARACTER ON HORSEBACK

Many a peculiar sight one sees on horseback. Did it ever occur to you that a horse raced in this condition becomes very much overheated. The saddle with its weight rubs the back. Under the bridle and straps are little sore and chafed spots. Soothe and refresh by the use of Gossamer. Article of great value in a stable.

C. N. CRITTENDEN CO.,
115 Fulton St., New York.

POULTRY.

Raising Pure-Bred Poultry.

Hazelmere Poultry Yards are the property of W. B. Richardson and are situated in Knightsbridge, about four miles from Providence, R. I. They cover three acres. The houses are on the scratching-shed plan, and consist of eight breeding and laying houses, fifty feet long, a small fitting house for exhibition birds 20x18 feet, a feed house and cook room 50x24 feet. This house also contains a large number of pens for the birds that are being prepared for the winter shows.

The yards are 100x25 feet and are shaded by peach and plum trees. The trees are now five years old and in full bearing. No chicks are raised on the home place, but Mr. Richardson is interested in several farms, where the chicks are raised and brought home in the fall. After giving nearly all breeds a good trial for the past five years, Mr. Richardson has come to the conclusion that the Rhode Island Reds and Columbian Wyandottes are the best, both for eggs and market poultry. That his Reds are as good as can be produced has been shown in the past few years, as they have been big winners in both the Boston and New York shows. Mr. Richardson is the largest breeder and exporter in this country of Columbian Wyandottes.

Here is a breed that without doubt have a great future before them. In all that goes to make up a valuable breed they are far ahead of both the Silver-Pencilled and Torkridge varieties. The writer has handled and mated them at Hazelmere since Mr. Richardson first bred them, and tested, side by side with these two varieties, have shown that they lay larger eggs, the eggs are better color and more uniform in size. The chicks grow faster and are harder. They are a better market fowl and dress as good as a White Wyandotte. Breeds may come and breeds may go, but the breed that pays is the one that has utility for its foundation, and the Columbian is the best utility breed of all the new Wyandottes.

Auburn, R. I. A. C. ALLEN.

Hints for Marketing Poultry.

In selecting a shipment of poultry for the market the farmer will find it to be of advantage to have his birds of uniform size. They look better and neater, and will bring a higher price. If the birds are tied together in pairs by the necks, always select two that look as much alike as possible. Pack them all neatly, for appearance has much to do with finding a market for them. Handle the carcass so carefully that the light outer skin will not be broken. The skin under skin showing through in spots detracts from their appearance.

There is one thing which farmers generally overlook, and that is the saving of feathers, especially those of the turkey. At

present, first-grade feathers will bring the following prices: Turkey tail feathers, thirty-six cents per pound; wing feathers, twenty-five cents per pound; body feathers, dry plucked, five cents per pound; chicken body feathers, dry pick d., 5¢ cents per pound; goose and duck feathers, from twenty-five to forty-five cents per pound, according to quality. While it might not pay to save feathers from a few fowls, it would undoubtedly pay well where a large number are dressed out, and thus the fowls would contribute their last item to the poultry fund, which is becoming such an important factor on the farm.—P. H. Sprague.

Care of Laying Hens.

Laying hens should be kept in well-lighted, clean, well-ventilated quarters, with large windows to the south to admit plenty of sunlight. Each hen should have ten square feet of space for run and scratching. The house should be six feet high at the lowest point. Place drooping boards under the roosting perches which should occupy only about one-third the space of the house. This arrangement will allow the entire door for run and distribution of litter. The floor should be kept dry; clean straw, chaff or leaves to the depth of two or three inches should be thrown on the floor. A dust bath three feet square, filled with common road dust, should be placed in one corner.

Not more than twenty-five hens should be kept in one enclosure. Exercise should be encouraged. This can be done by feeding sparingly in the morning. For the morning feed boil a pint of oats, drain off the water, add all the bran that will adhere to it, feed in a clean trough. At ten-thirty to every twenty-five hens throw three pints of equal parts, corn, oats and wheat in the litter which will compel them to exercise to get it. For the evening feed give them all they will eat of a mixture of vegetables, chopped roots, boiled potatoes, cut clover with bran shorts or pea meal; add enough water to make thick and crumbly but never soft and sloppy. To this add twice a week some cut bone and meat scraps. Provide hens with sharp grit and oyster shell or some other forms of lime. Be careful not to overfeed. Hens too liberally fed become fat and lazy, don't exercise and consequently will not lay. Provide fresh water.—Bless & Clark, Ashland, O.

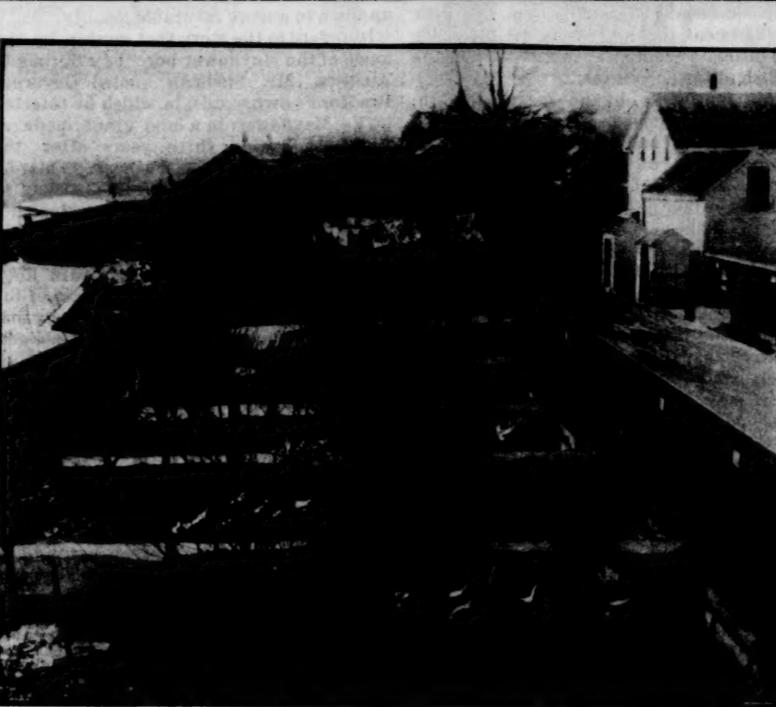
Valuable Poultry Experiments.

Bulletin 83 of the West Virginia Experiment Station contains a full account of four experiments with various methods of feeding and sheltering poultry and their influence on egg production, from which the following summaries of the results are condensed:

The first experiment was to determine the relative value in egg production of three kinds of food, namely, beef scraps, ground fresh meat and bones, and milk albumen. The beef scraps were obtained from a large packing-house in Chicago; and the results were by far the most favorable with these, the ground fresh meat and bones coming next in order. The eggs from each of the three pens were incubated and found to be equally fertile. An additional advantage in the case of the beef scraps is that an indefinite supply can be obtained at one time and will not spoil.

In the second experiment five different pens of fowls were employed for two periods of sixty days each, and an effort was made to determine the following points: Whether it is better to feed whole grain, or whole grain at night with mash in the morning, or whole grain in the morning with mash at night. No difference could be observed between feeding the mash in the morning and at night, but all experiments, including mash, had better results than those with whole grain. In general, the heavier the breed of hens and the more closely they are confined, the better they do with the whole grain ration.

Beef scraps were and should be fed with both rations.



ESTABLISHMENT FOR PURE-BRED POULTRY.

Hazelmere Poultry Yards.

See descriptive article.

The next experiment was to determine the advantage, if any, of keeping hens warm on cold nights by means of curtains surrounding their perches. The results of all the tests were unfavorable to the use of curtains in the climate of West Virginia. It should be noted, however, that curtains used at the Maine Experiment Station with highly satisfactory results, so that the method may be a good one in very cold weather.

If plants grow spindling, give more air and less heat. An average of fifty-five to seventy degrees by day to forty-five to fifty degrees by night is correct. Roots require coolness and evenly maintained moisture, while the foliage needs air and light; therefore the pots should be on shelves close to the glass, and, if possible, shade the pots while the plant is in full light.

The last experiment was a trial of the Van Dreser method of producing an early and uniform moult. The advantages of the early moult are that the feathers may grow again and the fowls get in good condition to lay well before cold weather sets in. The Van Dreser method of attaining this consists in withholding food for several days until the production of eggs ceases and the fowls begin to fall off in weight and then feeding heavily with a ration specially adapted to building up the system and forming feathers. Beginning Aug. 5, 1902, the experiment was tried with two lots of each of two different breeds. One lot of each breed was left to shift for itself, and the other was fed its regular daily rations. This experiment was continued thirteen days. The hens not fed had stopped laying by the seventh day and had practically all begun to moult by the thirteenth. Then all the hens were fed the same ration again, with the highly gratifying result that those whose food had been omitted all had new feathers and had begun to lay again by the time the others began to moult. Those made to moult in August entered the winter in much better condition and were more profitable.

Late experiments and experience with hatching machines emphasize the desirability of restricted ventilation or the supplying of abundant moisture in the air of the egg chamber during the first week of incubation. Either or both of these precautions tend to aid normal rational development of the embryos during the early stages.

Dorticultural.

Forcing Strawberries for Early Market.

A compost of thoroughly rotted sods and the cleanings of the cow stable, in proportion of three parts sod-mould to one of manure, is first prepared. Decayed leaves and muck or any good rich loam can be used in place of sods. With this compost made fine and clean by passing it through a coarse sieve, fill in June or July as many three-inch pots as desired and sink them to their runs along the sides of the rows from which the winter-bearing plants are to be obtained.

From the parent row guide the first runners so that they will take root in the pots, letting each runner form but a single strong plant. In about two weeks these plants with the accompanying earth are ready to put into eight-inch diameter pots



WINTER STRAWBERRIES.

filled with compost. Broken pottery can be placed in the bottom of these pots for drainage. One plant is placed in each pot and the soil pressed firmly about the roots. Place the pots in a shady place for a few days till the roots have taken hold of the new soil, then change to an open, airy position, close together, where they can be cared for daily. The plants must be kept moist and made to do their best until October. After this, water sparingly and air to prevent foliage and roots and induce a season of rest.

In November fill a hotbed pit with dry leaves, sink the pots in there close together up to their rims, later cover the tops to prevent the earth freezing. Cover the pit with boards to keep out the wet, but not tight enough to exclude the air, keep them barely moist, enough to prevent shriveling.

Best varieties for forcing are those of a low, stocky growth, bearing perfect flowers and sweet, highly-flavored fruit as Triumphant de Grand, La Constante, bush Alpine and Black Diamond.

It requires from ten to fourteen weeks to mature the fruit under glass. To ripen berries for the holidays, subject some of the plants to heat in October. They can be taken from storage every two or three weeks, so as to secure a succession, and if a mishap befalls one lot of plants, there are other chances for winter fruit.

In forcing the plants, follow nature. In the spring, plants gradually awaken into life and blossom when the weather is comparatively cool. Let conditions under glass accord as near as possible with those under

the open sky. If heat is turned on too rapidly the plants will look well and blossom, but the stamens will be without pollen and the pistils turn dry and black. At first the temperature is 45° to 50°. Admit air freely at all times; less will answer in cold weather.

If plants grow spindling, give more air and less heat. An average of fifty-five to seventy degrees by day to forty-five to fifty degrees by night is correct. Roots require coolness and evenly maintained moisture, while the foliage needs air and light; therefore the pots should be on shelves close to the glass, and, if possible, shade the pots while the plant is in full light.

When the buds begin to open, the forcing must be conducted slowly and evenly. After the fruit is set, heat can be increased till it occasionally reaches 75° at noon. Give less water after the fruit begins to color; it will make the berries sweeter and ripen faster. Keep off all runners and fumigate with tobacco if insects trouble.

On the same principle, the ripening of strawberries can be hastened by the use of hotbeds, cold frames, ordinary sash. Considerable fruit may be ripened by digging up clumps of plants during a mild spell in winter, setting them in boxes or pots of rich earth and placing in the greenhouse. Connecticut. I. A. LEONARD.

Foreign Apple Markets.

All foreign apple markets continue to show improvement, and with light arrivals from America and Canada, prices are tending upwards. Arrivals of finest red apples are selling at prices as quoted by G. A. Cochran that give nets all the way from \$2 to \$2.25 here in Boston, some extra hatching machines emphasize the desirability of restricted ventilation or the supplying of abundant moisture in the air of the egg chamber during the first week of incubation. Either or both of these precautions tend to aid normal rational development of the embryos during the early stages.

The total apple shipments to European ports for the week ending Dec. 26, 1903, were 38,998 barrels, including 11,523 barrels from Boston, 4546 barrels from New York, 19,748 barrels from Portland, 1037 barrels from Halifax and 2142 barrels from St. John, N. B. The total shipments included 27,994 barrels to Liverpool, 1749 barrels to London, 6022 barrels to Glasgow and 3233 barrels to various ports. The shipments for the same week last year were 40,296 barrels. The total shipments since the opening of the season have been 2,479,171 barrels, against 1,700,517 barrels for the same time last year. The total shipments this season include 440,916 barrels from Boston, 842,834 barrels from New York, 153,660 barrels from Portland, 278,182 barrels from Montreal, 271,711 barrels from Halifax, 27,260 barrels from St. John and 14,638 barrels from Annapolis.

From the parent row guide the first runners so that they will take root in the pots, letting each runner form but a single strong plant. In about two weeks these plants with the accompanying earth are ready to put into eight-inch diameter pots

The Southerner.

The Boston bag has been ridiculed often by visitors to our city from New York and elsewhere, but its capacity for storing away many small parcels and articles will make it popular here always. Sometimes it gets filled to overflowing, as was the case in an "L" car the other day. On this occasion it was carried by a young girl of seventeen or eighteen summers, one of a group of pretty maidens who were somewhat self-conscious, and imagined that all the passengers had their eyes fixed upon their budding beauty. Suddenly the car gave a lurch, the girls were standing up, and an orange rolled out of the Boston bag, one of them carried, and went speeding along the whole length of the vehicle. Several gallant young men rushed after it, and after tumbling over each other several times, one of the would-be captives secured it. With a gratified smile he passed up the aisle, attracting universal attention, and held it out to the "airy, fairy Lillian" to whom it belonged. Did she accept it with thanks? Not at all. She actually refused to receive the fruit, and the young man was obliged to pocket the insult with the Florida product. His perilous quest came, therefore, to naught, for the damsel did not even smile upon him. In point of fact, she gave him the cold shoulder by turning her back so that he could not see her ungrateful face.

A benevolent lady of my acquaintance, who is afflicted with deafness, called at the house next door to her own to inquire about a sick neighbor yesterday. A green servant girl answered her bell summons, and the caller said:

"How is Mrs. Stone this morning?" Then she put her ear trumpet in place to hear the response.

What was her surprise to see the intelligent domestic seize it and rush up stairs in the direction of the sick room. She followed after and found the invalid laughing heartily, while the girl said:

"Sheer, didn't ye tell me to bring ye any thing that was left for ye?"

The owner of the ear trumpet of course recovered it, and now she is wondering if the girl thought it was a curial or something good to eat.

This reminds me of another maid-of-all-

Great January Clearance Sale

Of Bright New Attractive Merchandise

At a Saving of from 25 to 50 Per Cent.

THROUGHOUT our entire establishment, in every department, such goods as Muslin Underwear, Petticoats, Dressing Sacques, Corsets, Shirt Waists, Cloaks, Suits, Dress Goods, Silks, Millinery, Etc., have been marked From 25 to 50 Per Cent. Less Than Usual Prices.

GILCHRIST COMPANY,
The BOSTON'S FASTEST GROWING DEPARTMENT STORE, The Daylight Washington St., Through to Winter St. Daylight Store.

1870 and \$435,000,000 in 1880. The per capita money in circulation in 1903 is \$30.32, against \$29.41 in 1890 and \$13.85 in 1860. Deposits in savings banks in 1903 are \$2,935,000,000, against \$1,234,000,000 in 1890, \$520,000,000 in 1870 and \$14,000,000 in 1860. The figures for the census year 1900 is given at \$13,000,000, against \$1,3-1 billion in 1880, and less than \$2,000,000,000 in 1860. Railways in operation in 1902 are 203,132 miles, against 166,703 miles in 1890, 83,262 miles in 1880, 52,922 miles in 1870, 30,026 miles in 1860 and 9021 miles in 1850.

The first inaugural meeting of the Massachusetts Horticultural Society under the new laws will be held Saturday noon, Jan. 2, at Horticultural Hall, Boston. As it is the commencement of the term of office of the new administration, an inaugural address will be delivered by the president-elect, Henry P. Walcott, M. D.

The most notable increase of exports of the United States for the eleven months ending with November is in agricultural products, which amounted to \$11,475,000 in November this year, against \$83,035,850 last year. This is accounted for altogether by the enormous increase in the exportations of cotton this year over last, the value of the cotton exported during November this year being \$67,991,284, against \$35,345,812 last year.

The Cuban reciprocity treaty went into effect at twelve-five o'clock Monday, and customs officials are now making collections in accordance with it. It is expected that the imports of tobacco and sugar will show a considerable increase.

About Good Seeds.

The successful planter owes his success mainly to sowing good, fresh seed. He knows the value of buying the home-grown produce direct from the reliable grower.

The well-known Marshfield, Mass., have for nearly half a century sustained the reputation among planters, farmers and gardeners throughout the country of producing only fresh, pure and reliable seed; a reputation founded not merely upon growth, selection and care of the seed stock, but also on the purity and thorough reliability of the seed raised from it. These famous seeds are sold under three guarantees, which proves the sincerity of the growers while they insure safety to the planter.

Messrs. Gregory & Son are sending out their annual catalogue for 1904, which contains many new improved varieties in vegetables, small fruits, flowers, and a vast number of farm and garden facts, which should be of great utility to every one who plants seed. This valuable book will be sent free for the asking.

Figures received from the Bangor & Aroostook Railroad show a shipment of 678 deer and forty-seven moose for the fifteen days of open season in December. The total numbers for the past season are 3663 deer and seventy-eight moose, against 4495 deer and 244 moose for the season of 1902.

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MASSACHUSETTS PLOUGHMAN
NEW ENGLAND AND
JOURNAL OF
AGRICULTURE

TELEPHONE NO. 3707 MAIN.

Frozen pipes are now ripe and the plumber joke's in season.

The old year reserved its most terrible calamity for the last.

It's the well-to-do stranger that doesn't get taken in at police headquarters, now-a-days.

The police of Paris seem to have taken the baker's strike right out of the oven before it was half cooked.

It does seem, in literary Boston, as if this St. Louis party that is being prepared our famous contemporary might have included five authors.

After all there are a good many persons who have only just realized that anybody could possibly question the pedigree of the Protestant Bible.

The gypsy moth had better look out or get out over in Medford. All the indications are that before long he is going to have a rum time.

The selectmen of Brookline would apparently eliminate any undue flying o'er the snow from the old song; at least, the flying must be strictly non-competitive.

No one need worry seriously over the King of Denmark's chili. Many of us had chills ourselves early in the week, and Denmark is known to be a chilly country.

We agree with Gen. H. V. Boynton. If people will write history by all means make them write it as accurately as possible. There are doubts enough even in the most careful histories.

The Connecticut gentleman who was too gentlemanly to sleep in a cell was not too gentlemanly to take advantage of the kindness of his police guardians by escaping from more gentlemanly quarters.

The only immediate solution of the motive that impelled some unknown person to throw a bucket through a local shop window the other evening is that he must have imagined it to be a bucket shop.

Out in Indiana stripes for convicts are being abandoned from penal regulations and here in the East some of our own justices are advocating a return to the whipping post. That about events things up.

Much interest has been excited concerning the two young women of Winthrop who took a dip in the ocean last Sunday morning. But who knows whether the pipe that ordinarily supplies their morning tub may not have been temporarily out of commission.

The Pennsylvania contractor who has just seized the plant of the University of Southern Pennsylvania because he hasn't been paid for erecting the building needs only a few professors to be able to give his sons a college education without sending them away from the home influence.

Chicago will, doubtless, be more careful in future as regards naming her schoolhouses; and yet it would seem as if a citizen who knew that the little schoolhouse just round the corner was named in his honor would think of all the trusting little ones, learning their first lessons within, and have an anchor out to windward of his own honesty.

Thirty Hawkins street is a good number to remember, especially in view of the recent statement of the chairman of the Poor Board that the miscellaneous giving of dimes to beggars is responsible in part for our present reign of lawlessness. It's at 30 Hawkins that the city provides these same solicitors for charity an opportunity to eat and sleep after earning the privilege.

The farm woodlot is not the bonanza now that it was during the coal strike, but firewood is still in good demand in most localities at prices somewhat above those prevailing a few years ago. The coal magnates show an inclination to steadily advance the price of coal. Such a condition cannot fail to improve the market for wood. Probably the cord wood trade, as well as the lumber trade, has already seen its lowest values, and will tend to improve in the average of a series of years in the future. Farms with a large growth of wood and timber are often very desirable property at prevailing prices.

The sentiment against immoral features at agricultural fairs grows stronger every year. There is a decided reaction following the wave of laxity which has swept over the country since the time of the "midway" at the Columbian show and elsewhere. Significant is the declaration of the secretary of the Kansas State fair. "We will not have a carnival, but a clean, wholesome, genuine State fair. No liquors or gambling will be allowed, no midway and no side show of any sort that will bring the blush to any one." The Western shows were at one time the worst offenders, but public opinion and the good sense of the management have brought about a change. There is still room for improvement in most sections of the country.

The pure food law, unlike most new enactments, seems to be working better and more thoroughly than was expected. Its energetic application by the Department of Agriculture is bringing to light all sorts of fraudulent and adulterated products which foreign sharpers have been trying to dump upon the American market. Some of the discoveries are rather comical. The other day, with a whoop and a flourish, Dr. Wiley's men swooped upon an invoice of "Norwegian meat balls" which appear to be some mysterious hash-like mixture of an objectionable nature. Other imports are downright swindles because of wrong labels or misleading labels. Prompt action against dishonest foodstuffs helps to maintain the market for honest food products.

The peat bogs may some time prove a new source of marketable fuel. Similar material is already in common use in Europe and is made by a rather elaborate process from the deposits of the bogs in Holland, Germany and Russia. There are hundreds of millions of tons of the raw material in eastern Massachusetts alone and a practically unlimited supply in various other localities. Something is already being done in the manufacture of salable fuel from these

sources, but it is a question whether the business has reached a stage where the peat fuel can in any way compete with coal. Some time the peat bogs may do wonders to revive the manufacturing industries of the North Atlantic States, and likewise prove quite valuable parts of the farm on which they are located.

The progress of new ideas in forestry is shown by the efforts here and there to make the most of the farm woodland. Thus one farmer is going over his swamp lot, cutting out the birches, which would otherwise soon decay and be a total loss before the rest of the growth is ready to cut. The remaining trees are mostly swamp maples and will occupy all the space and produce as much wood as if the birches had not been there. Another farmer went through his pine lot, cutting off the lower branches to prevent the long knots, which otherwise result from the stumps of dead lower branches. Another farmer is having his woodlot cut with especial care to leave the likely young trees, which will grow and occupy the whole space much sooner than if nothing but sprouts and small undergrowth were left. These are practical measures and a part of good, modern husbandry.

Massachusetts and the Blind.

A very interesting meeting was held at Perkins Hall on Tuesday evening last by the members and friends of the Massachusetts Association for Promoting the interests of the Adult Blind. Though a great deal has been said and written lately of the crying need that exists in this State for a properly endowed institution in which those who have become blind since childhood may be educated for self-support, more talks and more writings are by no means superfluous. Last year a commission was appointed by the State to investigate the agencies employed elsewhere for helping the blind to help themselves, and a few weeks ago the annual hearing was given at the State House to this question.

But the great public, the mass of the people, have not yet been roused to action in this important matter, and some of these is sincerely to be hoped the Perkins Hall meeting will reach. Addresses were made by Rev. Edward Cummings, president of the association, Mr. Samuel B. Capen, Rev. Fr. M. J. Doody, Miss Helen Keller, Mr. Edw D. Mead and others. A musical programme, arranged by Mr. Wilhelm Heinrich, included songs by Miss Gladys Perkins Fogg, and solos by Mr. Frank O'Brien, the pianist, both of whom are musicians of more than ordinary ability,—and blind. We speak the presence at this meeting of all PLOUGHMAN readers. The work for which it stands is emphatically one "of social progress."

England has the greatest institution in the world for the blind, and it was founded and conducted by Dr. Campbell, an American. Dr. Campbell himself begged the million and a half dollars necessary to his undertaking, and he is alive today to enjoy at seventy-three the results of his noble achievement. His son is now in this country doing much to promote the interests of the blind. The elder Dr. Campbell is himself sightless. Many thoughtful people feel that work for the blind will never be what it might be here until a carefully trained sightless person is at the head of a well-endowed institution to teach sightless of all ages methods of self-support. Such a person would understand from experience the great need of having a universal system of raised letters, of using in all publications, and teaching to all students the European Braille, which is employed alike in the French, German, Swedish and many other languages. Such a person would be too, to stand strongly for the multiplication of libraries for the blind.

It is a shame and a disgrace that in only two or three libraries hereabouts has any adequate provision been made for the needs of the many blind among us. All these questions will, however, be broadly and intelligently discussed at Tuesday's meeting. May the attendance be so large as to put renewed courage into the hearts of those members of the Women's Educational and Industrial Union who are working so generously and unselfishly for this greatly needed measure!"

The Bible in the New Year.

Dr. Daniel C. Gilman, ex-president of Johns Hopkins University, has recently written some pages of great interest on the Bible as literature. He urges that we close our eyes for a moment to the sacred character of the Scriptures and consider them merely as we consider the other great writings of antiquity—Homer, Virgil, Cicero and the rest. All the arguments that uphold the value of instruction in these great works apply equally to the Bible.

There are passages in the Old and New Testaments admirably appropriate to be studied and committed to memory by the youngest and the oldest of us. These extracts are lofty in sentiment, dignified in expression, and hallowed by associations.

"That man has a serious lack in his intellectual equipment," writes Dr. Gilman, "who is without a knowledge of the Mosaic poem of creation, the origin of the decalogue, the Exodus, such psalms as the Nineteenth, the Twenty-third and the One Hundred and Third, parts of the Book of Proverbs, the noblest passages in Isaiah, the Book of Ruth, the speeches of Paul, the 'Charity Chapter' in the First Epistle to the Corinthians, and some of the splendid imagery of the Book of Revelation. Allusion to such passages as these abound in English literature; it cannot be appreciated without a study of the Bible. Our history, biography, oratory, poetry, essays, contain innumerable references to incidents, characters, precepts and phrases, which can only be understood by those who are familiar with the pages of the Scriptures."

If for no other reason, then, the Bible should be studied as one of the most inspiring, suggestive, instructive and enduring literatures that the world possesses. That there is a strong historical reason for Bible study must likewise be admitted. But the third argument used, the rhetorical one, seems to us far and away the strongest,—considering the Bible, of course, as has been said, apart from its religious value. The present Authorized Version sets forth the English language in its full dignity; for fiction alone, if for no other reason, the important passages already named should be familiar to every one. Many of the best writers of recent years freely acknowledge their indebtedness in the matter of style, to the examples and illustrations with which they became familiar in the sacred pages. Such a help we cannot afford to ignore.

In a recent educational conference at New York, President Remsen lamented that for years past his work at John Hopkins has brought him into a contact with many college graduates there pursuing scholarly careers who were "actually deficient in everything that pertained to the use of their mother tongue." Evidently this

gentleman would be heartily in accord with the sentiment that our young people sadly need intimate acquaintance with the sterling English of the Scriptures.

This matter is by no means foreign, however, to the concern of those of us who have left school and college far behind. At this beginning of the New Year, might we not,—any one of us,—do well to acquire the habit of familiarizing ourselves by daily study with the noblest parts of the Bible. In the old days people set to work every year to "read the Bible through." To have read the Bible through once in the course of a lifetime appears to us an achievement worth while just as it is good to have read all of Shakespeare and all of the Waverley novels. But afterwards the choice passages are of most interest and value, and such choice passages of the Bible as outlined by Dr. Gilman we might any of us make our own during the year 1904 by a little perseverance. That the game would be worth the candle there is scarcely a doubt.

A Domestic's Criticism.

The servant girls' side of the question of domestic service is not often heard from, though the complaints of the mistresses are frequently ventilated in the public prints, but a servant girl in the Kansas City Times gives her opinion concerning the frequent coming and going of girls in every household in an emphatic manner. She lays the whole blame for this state of things on the average mistress. Now, there are good and bad mistresses as well as good and bad servants, and we do not intend to take sides in this controversy, but, perhaps, it would be well for householders generally to understand the feeling in life below stairs, in order that they may meet pleasantly any reasonable objections that may be made to their criticisms upon the work performed by their domestics.

This living-out girl of Kansas, which long ago ceased to be considered a part of the "wild and wooly West," says that bachelors and widowers who keep house experience no trouble about getting and keeping good servants because they are not constantly finding fault in an unreasonable manner.

In regard to single men she says: "A bachelor can be just as particular as anybody—and he usually is if he keeps house. I don't believe the man I work for would let a slovenly or incompetent girl stay for a week. He wants things right and he knows when they are right, too." She asserts still further that he isn't worrying her all the time, and he only objects when things are actually going wrong. Perhaps, though, he has not such a keen sight for seeing small things as a woman, and has not an eye for the little niceties which are, so to speak, the breath of her nostrils. A woman can nose out many things that would escape the attention of a masculine head of a house who had no feminine companion, and perhaps the corresponding domestic of the Times stays in her situation because she is queen of all she surveys among the pots and pans and other appointments of her bachelor master's *ménage*.

But let her be heard further on the subject, since her sisters seldom have a defender in print. This wielder of the pen, as well as of the feather duster, continues as follows: "In the place where I am now where I have all the responsibility, I can take some pride in my work. I like to see how spick and span I can keep the house and how low I can keep the grocery bill and still set a good table. In the place where I worked before I didn't care much. Now I think if the Kansas City housewives will inquire they will find, as I have said, that the men who are keeping house don't have any difficulty about having their help leaving, and if the women would treat their servants in the same way, they wouldn't have trouble either, and the house would be better done." All this seems to us to indicate that if the mistresses will abdicate and allow the domestics to run the household, everything will be serene. But this is a kind of Gilbert and Sullivan transformation that will never take place, if we are any judge of human nature. It might do for a comic opera, but it would never work in real life. The Kansas maid didn't care much when she worked for women, apparently, because she couldn't have her own way. And the bachelor master had her praise, for the reason he does not interfere as long as his comfort is looked after. When he takes a wife, it may be different. He may expect her to be a kind of upper servant, and perhaps speak slightly of her biscuit, and praise the bread that Mary Ann used to make. After being apparently coddled by the superior Kansas domestic, he may be hard to please and find it difficult to realize that unselfishness is one of the pillars of the home.

New England Leaves.

At the elaborate dinner given by the New England Society, at the Waldorf-Astoria, in New York, in celebration of the two hundred and eighty-third anniversary of the landing of the Pilgrims, President E. C. Stedman, in beginning his address, eulogized the ladies in the galleries as being set apart from the banqueters as if they were Empresses of China or Lamas of Tibet. This might have been a sly allusion to the custom of allowing the elegantly dressed women to come in at the end of a feast, to enjoy the speechmaking after a dinner, in which the baked beans and the Indian pudding were conspicuous by their absence. Be this as it may, he paid a deserved tribute to the mothers and daughters present, whom the descendants of the Puritans were glad to protect and honor, after the example of their forefathers, though the large Colonial families had disappeared, and he said, in this connection, that it might be trying nowadays to provide for ten daughters and one son, as did the great Jonathan Edwards.

Mr. Stedman significantly added, however, that there were probably fathers and mothers present in the hall who realized that at the present time in New York one lively recipient of pin-money would distribute more money for fripperies and furnishings than would have clothed all these daughters of the older time, and sent their only brother to Yale in addition. But other times, other manners, and perhaps the girls of the present day do not get more enjoyment out of life than did the Edwards ladies before they got married, and "stayed married." Happiness is only comparative, after all, and with good health and youth, and no social heart burnings, the Puritan maidens derived as much pleasure from existence as do their fashionable successors who have to dress three or four times a day, and find the wearing of the same frock frequently during a season a weariness and vexation of spirit. The Misses Edwards were plainly clad, and, no doubt, made their own clothing, but even with their scanty wardrobes we believe they never said they had nothing to wear, like Flora McIlmey, who once lived in Madison square, but who abides there no longer, having gone farther

up town to a more favorable locality.

In regard to the story that no ship by the name of the Mayflower bore the Pilgrims to America, Mr. Stedman quoted Governor Bradford's own words, in which he referred to Ye Mayflower in a land grant made at Plymouth within three years after the arrival of the Pilgrim Fathers. This, he said, set at rest the doubts of Mayflower descendants, or "concessionaries," that deems itself the upper house of the New England society."

The attempt to deprive Plymouth Rock of the honor of first kissing the feet of the Pilgrims, he treated jocularly by stating that a learned concubine had actually asked permission to read a paper before the New England Society, showing that the first Pilgrim landing was made on the borders of a creek, but that he had been officially warned that Plymouth Rock would continue to be the corner-stone of the New England Society in New York, because it had long been the symbol of heroism and devotion to an enduring principle of right. The sinking of Boston at the rate of an eighth of an inch a year engaged the speaker's attention for a moment, and he quoted the Tribune poet, who said:

"When Boston sinks into the sea
To seek a new profundity,
When culture lives with man no more
And Beacon Hill's a mile from shore,
The sacred codfish down below
Will tell us all we ought to know."

Mr. Stedman concluded with the assertion that New England is all right, and that the leaves of the forefathers, in spite of modern innovations, will continue to leave the whole lump.

Farm Values.

Farming land in the West has risen in value greatly during the past few years. A little of the same tendency has been noticed in many parts of the East. A more decided rise in Eastern farm values has been prevented by the more cautious tendency of Eastern buyers, and by the fact that farm property has long been overshadowed by other forms of investment.

The fact is that many good Eastern farms are relatively much cheaper than Western farms. A given amount of money will today, in favored sections of New England and the Middle States, buy land that will produce a greater annual net value than an equal sum placed in agricultural holdings in the prairie States. Eastern farms are now too low in price, whether we go West or East for comparison. Choice land in parts of Europe, more thickly settled than Massachusetts or even Connecticut, sells at \$200 to \$500 per acre, compared with \$20 to \$100 per acre in this section, buildings included in some instances.

Land is considered, the world over, the most desirable kind of property, because its value is most reliable, steady and permanent. The trouble in the eastern United States is not with the land; some of it is as good as can be found anywhere. The difficulty is from lack of demand. Farming has long been comparatively popular in the East, and has only somewhat lately reasserted its hold upon the young men of business talents. In the West, in many sections, farming is the main industry, and is regarded as one of the most satisfactory careers for the bright young men of the community. Such a sentiment creates plenty of farm buyers and largely accounts for the boom in farm values. In the East when a choice farm that has made a competence for previous owners, and is still as good as ever, is offered for sale, the only bidder may be some foreigner with no appreciation of the real possibilities of the farm under skilful management.

Probably the worst days are over in regard to Eastern farm values. The whole country is growing very fast, the desirable free land is gone, and good land anywhere on the continent cannot always remain a drug on the market. It would be in harmony with the trend of events should a pronounced rise in Eastern farm prices take place during the next half dozen years. Meanwhile a good farm is excellent property to hold, improve and develop, with a fair prospect of better market values to come.

A Famous Tobacco Crop.

Of those who are playing the game today—the difficult and dangerous, but still legitimate game of tobacco raising—there are not many who recall the great disaster of 1870, of which the following account is given by a writer in the Springfield Republican. All told, though, perhaps there never was a year better illustrating the extreme vicissitudes of the tobacco farmer's undertaking. There is an old phrase which still hangs on the cynical lips of the tobacco buyer, "As bad as the '70 crop," which has not yet ceased to have a meaning. If people's feelings were not at stake, it would add to the historic story to tell of the mortgages not very long since paid—fearful heritages of this famous crop of 1870—and to speak of others who never really recovered from the financial shock of the disaster. It was the rainless crop, as some will recall. The soft and creamy smile of the old tobacco farmer as he tells the story seems to say to nature that she will have to bid high to get back into her good graces again. There was hardly a drop of rain from the last of June until the tobacco crop was harvested. No season ever dawned fairer. The young plants when set out were well cared for by nature and grew with characteristic rapidity. The hopes of the farmers at this critical time in the life of the plant were high. With that buoyancy found nowhere else, except in the breast of a true horseman, he began to look forward to a good crop. Then came those long days when the sunburned sun day upon day set his rays upon a parched and unprotected soil. But the start which the plants had obtained helped them to survive the shock. Though the farmers could not rest such a year before, and feared the result, the crop was poled, with the heart of the farmer still beating high.

It was a deceitful year. The farmer had obtained money for his fertilizers in many cases by mortgages, or, as was the custom in those days, had supported large herds of cattle for the purpose of fertilizing, and had spent his money to plant and gather the crop. The disaster awaiting had not yet dawned upon him. The tobacco in due time was packed, cased and, in due time, would be ready for the market. Old smokers will readily recall that the fashion before 1870 was for dark cigars, but at about that time the light cigar began to be called for. "It was hardly time to market the crop of 1870," said one of the spectators of the day in recalling the crop, "and we had not sampled the crop ourselves and knew very little about how it was coming out. What the farmer wanted more than anything else was to get rid of his crop of 1870. This was dark in color and what the market demanded. I remember very well of being asked by a Philadelphia dealer about

the state of the crop.

We want the crop

to be

good.

So we want the

crop to be

good.

So we want the

The Markets.

BOSTON LIVE STOCK MARKETS.

ARRIVALS OF LIVE STOCK AT WATERTOWN AND BRIGHTON.

For the week ending Jan. 6, 1904.

Sheep and **Pigs**
Cattle Sheep Swine Hogs Veal
This week... 3215 7,501 40 29,016 1169
Last week... 3175 11,870 40 32,355 1247
One year ago... 722 5,766 21,198 392

Prices on Northern Cattle.

BEEF—Per hundred pounds on total weight of hide, tallow and meat, extra, \$6.90-\$6.75; first quality, \$5.50-\$5.75; second quality, \$4.50-\$2.25; third quality, \$4.00-\$4.25; a few choice single pairs, \$7.00-\$7.50; some of the poorest bulls, etc., \$2.50-\$1.50. Western steers, \$3.50-\$3.60. Stor Cattle—Farrow cows, \$15.25; fancy milch cows, \$16.00-\$17.00; milch cows, \$10.25; two-year-olds, \$15.25-\$20; three-year-olds, \$20-\$25.

SHRIMP—Per pound, live weight, \$2.10-\$2.30; extra, \$2.40-\$2.60; sheep and lamb per cwt. in lots, \$2.50-\$4.75; lambs, \$4.30-\$4.30.

HOGS—Per pound, Western, \$5.50-\$6.00; live weight, shotes, wholesale—; retail, \$2.50-\$7.00; country dressed hogs, \$1.60-\$2.00.

veal calves—\$2.75 lb.

HIDES—Brighton—\$4.75 lb.; country lots, \$2.60-\$2.65.

CALF SKINS—\$13 lb.; dairy skins, \$0.60-\$0.65.

TALLOW—Brighton, 3¢-4¢ lb.; country lots, 2¢-2.5¢.

PELTS—\$0.40-\$0.60.

Cattle, Sheep, Cattle, Sheep.

Maine. At Brighton. J. S. Henry 42
The L. & C. 24 Johnson 36
M. D. Holt & Son 19
Scattering 50
J. G. Bean 4
Balcon late train 150
New Hampshire. At Brighton. J. S. Henry 9
W. F. Wallace 6
Foss & Chapman 16
A. N. E. D. M. & Wool 60, 208
A. F. Jones & Co. 9
G. S. Peavey 7
At Watertown. Frank Wood 400
W. F. Wallace 60, 150
Vermont. At Brighton. J. J. Kelley 125
A. N. E. D. M. & Wool 24
Fred Savage 25
A. Williamson 21
A. P. Needham 26
A. N. E. D. M. & Wool 50
W. A. Ricker 15
B. & C. 25
F. S. Atwood 20, 25
J. S. Henry 10
Massachusetts. At Watertown. J. S. Henry 16
O. H. French 14
W. H. Bardwell 9
G. H. Barnes 19
At Watertown. Canada. 11¢-12
Fowls, p. b. 11¢-12
Chickens, p. b. 7¢-8
Pulled fowls, scoured 10¢-11
Butter.
NOTE—Assorted sizes quoted below include 20, 30, 50 lb. tubs only.
Creamery, p. b. 24¢-24
N. Y. & N. H. assorted sizes 24¢-24
Northern N. Y. large tubs 23¢-23
Northern large tubs 23¢-23
Western, small spruce tubs 23¢-24
Creamery, northern firsts 22¢
Creamery, western firsts 22¢
Dairy, N. Y. and Vt. seconds 18¢-19
Dairy, N. Y. and Vt. firsts 18¢-19
Old cocks 9¢
Ducks, spring 13¢-15
Receipts Jan. 5, were 1337 packages. Receipts for week have been 8283 packages, paraded with 9894 packages for the same period last year.

E. Wench, 12 beef cows, 1600 lbs. of 3c; 7 of 900 lbs. at 3c. D. A. Walker, 8 cows, of 5150 lbs. at \$2.80; 2 of 1500 lbs. at \$2.40. A. M. Baggs, 2 bulls, 3c; 3c of 1070@110 lbs. A. Wheeler, 3 cows, 1600 lbs. at 3c.

Milch Cows and Springers.
The market closed out hard last Wednesday. Many were held over and the trade did not pan out profitably. The arrivals thus morning were light and the trade nothing alarming. Some of the best fell into the hands of K. Connors in a speculative way. A. M. Baggs sold 8 milch cows and springers at \$4.50 a head; a good lot. The Library Company sold at prices from \$32.00-\$5. J. S. Henry sold choice cows at \$50.00; extra cows at \$40-\$47.50, with sales at \$32.00.

Veal Calves.
It was not a large run and butchers were ready to pay firm prices. Slim calves, \$2.25 to \$2.50; good veal, \$2.75 to \$3. Winter, clear and straight, \$3.50-\$4.00.

Late Arrivals.
Wednesday—Beef cows that sell at \$2.25 selling more quickly than those that cannot be offered less than \$2.40. Dealers know where they can find the latter, but will not touch them at present. Slim cows are selling as at last week's market. Milch cows and springers arrived in good supply, together with some left from last week. The market could not be called active or even fair. Buyers were not numerous and the selling was inactive, but worked off after a fashion. O. H. Forbush sold 1310-lb. cows at \$4.50-\$5.00; slim cows at \$1.50-\$2.00. Foss & Chapman, 5 cows, \$75 lbs. at 2c; fat bulls, 1200-1400 lbs. at 3c; 298 sheep, of 110 lbs. at 3c; milch cows, \$3.50-\$4.00. The Library Company sold best cows at \$60. down to \$35. W. Cullen, 8 choice cows, \$58; 2 at \$20; 2 at \$40.

Strewn Pigs.
A limited number on sale. Demand light, wide range, \$2.67.

BOSTON PRODUCE MARKET.

Wholesale Prices. Poultry, Fresh Killed.

Northern and Eastern—

Chickens, large choice, p. b. 17¢-18

Broilers, 3 to 4 lbs. to par, p. b. 18¢-20

Ducks, p. b. 15¢-16

Pigeons, p. b. 12¢-13

Pigeons, tame, choice, p. doz. 1.50¢-1.75

com to good, p. doz. 75¢-92

Squabs, p. b. 2.00¢-2.50

Western dry packed—

Turkeys, choice 18¢-19

Turkeys, fair 15¢-16

Turkeys, No. 2 12¢-13

Broilers, common to choice 15¢-17

Chickens, choice, large 13¢-14

Ducks, p. b. 14¢-15

Pigeons, fair to choice 10¢-12

Old cocks 9¢

Ducks, spring 13¢-15

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Live Poultry.

Fowls, p. b. 11¢-12

Chickens, p. b. 7¢-8

Pulled fowls, scoured 10¢-11

Butter.

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Northern N. Y. assorted sizes 23¢-24

Northern N. Y. large tubs 23¢-23

Northern, small spruce tubs 23¢-24

Western, small spruce tubs 22¢

Creamery, northern firsts 22¢

Creamery, western firsts 22¢

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NOTE—Assorted

Our Homes.

The Workbox.

KNITTED GOLF GLOVE
Material: Three-thread Columbia Saxon yarn, two skeins. Four steel needles, No. 16. Cast on 65 stitches, 3 plain, purl 3, alternating for twenty-five rows.

Right-Hand Glove—The palm facing the knitter and the thumb on the left-hand side. Make 13 plain rounds, on the fourteenth round begin to increase for the thumb by knitting the first stitch plain, and knitting 1 plain, and purling 1 in the next stitch. Knit 27 stitches plain, knit 3 plain, purl 3 for the remaining stitches of round.

15th round—Like 14th round.

16th round—Knit 3 plain, 3 plain, purl 3 for the remaining stitches of the round.

17th round—One plain, and increase 1 in next stitch, 29 plain, purl 3, 3 plain for the remaining stitches of the round. (This reverses the pattern, thus forming a small block.) Continue knitting in this way until you have increased 27 stitches, being careful to reverse the pattern, or blocks, every 3 rounds, making 93 stitches on the needle.

Thread a needle with coarse cotton, pass it through the 27 stitches knitted for the thumb. Tie the cotton. Continue to work in the round, also pattern, for 36 rounds.

First Finger—Six plain, take a needle and thread and pass it through all the stitches on the hand, except the last 13 stitches. Now use a third needle. Cast on 4 stitches—this is for the inside of the finger. Divide the stitches for the fingers equally on 3 needles. Continue to knit plain in the round for 30 rounds, then decrease by knitting two of the inside stitches together. Knit 6 rounds plain, narrow, and then knit 3 all around until you have 8 stitches remaining on the needle, draw the wool through the 8 stitches, draw together, fasten the wool firmly on the wrong side.

Second Finger—Take 7 stitches from the outside of the hand, on a needle. Cast 4 stitches on another needle, then take the last 8 stitches off the thread on a needle. Now pick up the 4 stitches, cast on for the first finger and work as before, making finger 6 rounds longer previous to beginning to decrease.

Third Finger—Take 7 stitches from inside of hand, cast on 4, take the last 7 stitches off thread, pick the 4 stitches from the inside of second finger, and knit as directed for the first finger, making 3 rounds more before beginning the decrease.

Fourth Finger—Take all the stitches remaining on the thread, and pick up the 4 stitches from inside of third finger. Knit 36 rounds, decrease as before, and finish the same way.

Now finish the thumb by taking stitches off thread on to three needles. Work 30 rounds plain, and finish off as directed for finger.

Left-Hand Glove—Work as directed for the right hand until you have put your stitches for the thumb on to the thread. The thumb must now be on the right-hand side, and the back of the glove toward the knitter. With this way of holding your work, each finger must be commenced.

EVA M. NILES.

Scrofula.

Formerly one of the greatest of scourges, the terror and even the ruin of many innocent young lives, scrofula, is now, under the more hygienic conditions of modern life, becoming less and less common.

It was formerly regarded as a constitutional disease, hereditary in character, a cousin possibly to consumption, yet of different nature and origin. Today, however, physicians are inclined to look upon it as a form of local tuberculosis, confined at first to the glands of the neck, but liable to enter the circulation, and thus reach the lungs or the brain, and so set up pulmonary consumption or meningitis. The germs of the disease are believed to enter the system through the tonsils or some other part of the mouth or throat, and to be carried thence directly into the lymphatic glands of the neck.

The management of so-called scrofulous children—that is to say, pale, delicate children, with poor appetite and sluggish digestion, who are subject to catarrhal troubles, and in whom little scratches of the skin readily become sore and heal slowly—is twofold. They must be made more resistant to infection, and the possible ports of entry of the germs of disease must be strengthened against attack, for they are not yet scrofulous; they are only in danger of becoming so.

The first object is to be attained by good feeding, tonics, small doses of castor oil, if this agrees with the stomach, outdoor life, residence at the seashore or in the mountains, if that is possible, and all the other things that conduce to the making of robust children. The mouth and throat must be looked after. The teeth must be kept clean and in good condition, catarrhal conditions must be treated and enlarged tonsils and "adenoids" must receive prompt attention.

If the disease is established and the glands of the neck are enlarged and full of matter, there is only one mode of treatment that promises a cure and the prevention of consumption, and that is to cut out the glands. The operation is not usually a very serious one. It extirpates the disease root and branch, and the scars that remain are very small and inconspicuous as compared to the large and deforming ones that follow when the glands are allowed to suppurate and break.—Youth's Companion.

What We are Living On.

Hardly any two scientists agree as to the age of the earth—that is, as to the length of time which has elapsed since the earth's crust became solid. Considering the very slow rate at which rocks are deposited by water, and the immense thickness of the beds of these "stratified" rocks as they are called, it seems that at least one billion years have passed since the globe evolved in its present shape out of the whirling mass of incandescent matter which it must once have been.

But Lord Kelvin, arguing from the known rate of loss of heat declares that not more than one hundred million years is the limit of time which has passed by since first rocks appeared and life began upon the earth. More recently Professor Tait has shown reason to believe that a tenth of Lord Kelvin's estimate may be nearer the truth. All geologists, however, declare that the latter estimate is too low.

We know with the utmost exactitude how heavy our little world is. If you put down the figure six and follow it by twenty-one naughts, you have it within a very few million tons. Roughly speaking, this implies that the earth is five and a half times as heavy as a globe of water of the same size.

But, in spite of this accurate knowledge of the earth's weight, we have no real idea of what is the condition of things inside our planet. Thousands of experiments made in all parts of the world show that the tem-

perature rises on an average about one degree for every sixty feet below the surface. If this rate of increase continues regularly toward the centre, that part of the globe must be at a heat so appalling that imagination is unable to grasp it. When this fact of increase of temperature with depth first became ascertained, geologists got the idea that we were living upon a furious furnace, of which volcanoes were the escape pipes.

Now we know better than that. We have found, among other things, that an earthquake in Japan is able to register itself in England. This actually happened in the case of the disaster in north Japan four or five years ago, when thirty thousand people lost their lives. A tremor of this kind could not pass unless the earth had a rigidity approaching that of steel, and observations of tides and the attractions exercised upon us by sun and moon have made it pretty certain that our world is just about as hard and solid as so much steel.

This does away with the liquid interior theory and makes it fairly certain that the earth is solid all through, with perhaps occasional accumulations of fluid rock here and there in parts where, for some reason or other, the pressure is not so great as it is in others.

It also upsets the old theory of volcanoes, and the modern idea with regard to these mountains of death and destruction is that water from the surface finds its way through a few miles below the surface, and then, being suddenly turned into steam, causes an explosion, or series of explosions, like boiler bursting on a gigantic scale.

Every schoolboy knows that the shape of the earth is an oblate spheroid—that is to say, that it is flattened a little like an orange at the two poles. The polar diameter of the earth is actually twenty-seven miles less than its diameter at the equator. But it is as yet not absolutely ascertained whether the flattening is similar at both poles. Some Arctic explorers appear to be of the opinion that the flattening is greater at the North than at the South Pole.

Another rather startling fact which has recently been demonstrated is that the equator is not a perfect circle. If you could drop a plumb line from Ireland through to New Zealand it would be somewhat longer than another which cut the earth at right angles to it. The difference has not yet been ascertained with absolute accuracy.

We are accustomed to talk of sea level as an invariable quantity. It is positively startling to find how very far from level the sea is. Not, of course, merely from the passing influence of tides and winds, but there are great and permanent elevations in the sea—positive mountains, in fact. It is calculated that in the Bay of Bengal the water lies at a level exceeding that of the Indian Ocean by fully three hundred feet, and that of the Pacific Ocean along the coast of South America may be heaped up as much as two thousand feet higher than the water in the opposite Atlantic. These water mountains depend upon the attraction of great mountain masses, the Bay of Bengal upon the Himalayas and the South Pacific upon the American Andes.

The height of our highest mountains has been measured to within an inch or two, and we have accurate information on the subject of the great depth of the sea. But we do not yet know with any certainty how deep in the atmospheric envelope of the earth. At one time twenty-seven miles was given as the limit. This was increased to forty, and soon even this estimate was extended to one hundred.

Our only means of measurement is by meteors, which spring into an incandescent blaze through friction when they strike our atmosphere. As man cannot live at a much greater height than five miles, it may be that we shall never learn exactly how thick is the atmospheric ocean at the bottom of which we crawl.—St. Louis Globe-Democrat.

Egg Lore.

Frog eggs are almost transparent. They are laid in long linked chains, in stagnant water, and show there like uncanny ropes. Fish eggs are likewise almost transparent. It is possible to watch the development within their filmy walls. An odd thing about them is that the fry appear to develop almost wholly from the albumen. The yolk-sac remains intact, and clings as a sort of stomach after the fry are swimming about; indeed, they are nourished by the yolk-sac throughout the first weeks of existence. It shrinks and shrinks as it is gradually absorbed, until at last it becomes invisible.

Egg production varies enormously. A hen's capacity is about four hundred eggs, divided pretty equally through the first three years of her existence. Other domestic fowls lay much fewer eggs. Against this, fish lay from three thousand to one hundred thousand each season, according to the species. Turtles lay one thousand a year, and live a hundred years, and insects lay in the course of a few weeks anywhere from three to five hundred eggs.

An odd fact regarding turtle, alligator, and crocodile eggs is that the young may be cut out of them several days before maturity, yet live and thrive. Further, they make for water instantly, and will snap viciously at anything which comes near them, or resent to the utmost of their power, an attempt to turn them from their chosen way.

House-Cleaning.

In my few years experience in house-keeping I have yet to see the propriety of allowing dust, grease and cobwebs to accumulate until the proper, or rather popular, season arrived for their removal. There is a more satisfactory method as follows:

First of all sanitary conditions being considered, mattrings, and still better, hardwood floors and rugs are preferable to wool carpets that are nailed down for a time indefinite. In my opinion, these are little more than the favorite haunts of moths and disease microbes. When the curtains begin to look grimy, and smell dusty, and the room needs a general refreshing-up, that is the time to clean it. Remove every possible thing from the room, sweep it thoroughly, and wipe the walls with a clean cloth. In washing the mattrings, put salt in the water; for wood-work, kerosene; for window-glass and pictures, ammonia; and for furniture use plain water rubbing afterward with a dry cloth. Rugs, hangings and pillows should be clean and well aired at all times. Having replaced the furniture and freshly ironed curtains, the room will present that restful appearance that cleanliness alone can give in December as well as in June. In this way the entire house can be cleaned at leisure, and no two rooms will require it at the same time. In like manner cupboards, closets and drawers should be carefully renovated as required, thus preventing work coming in heaps. You may ask, "How many times is this process repeated in a year?" The good housekeeper is sole judge. Much depends on the location, the size of the family and the occu-

pations of its members. Should a room require new wall-paper, why wait until the season when there is a general demand for paper-hangers, when at any other time you would receive better service? We are all familiar with one of the common ways of cleaning—the entire house, from attic to cellar, is put into a general mixup; the porches, front and back yards, fences and clothes-lines are filled to the uttermost; the paper-hanger postpones his appointment two weeks; the woman who never before failed to be on hand on such occasions is taken suddenly ill; the children are late to school because they cannot find their belongings; the husband dines at the restaurant, or is served on the kitchen table; each distracted mind is relieved by the one hope to be many miles away when the next anniversary of cleaning time is celebrated.—Woman's Home Companion.

Necromancer of the Kitchen.
A visit to the kitchen of one of the cheap restaurants, say to one of the plain American variety as a sample, discloses how much the everyday Yankee cook can bring out of little. A look at the bill of fare before penetrating into the secret of the necromancer who juggles with the edibles in the rear will increase the wonder. There are listed four or five different kinds of soup, as many, perhaps, of fish, half a dozen roasts, an ample array of made dishes, pies and puddings, and the vegetables, canned or fresh, in ordinary use immediately.

INDIAN CURIED ONION.
Fry sliced onions in butter or other good fat; salt well. Add one teaspoonful of curry powder and stir in two raw eggs. Add a few drops of lemon juice just before removing from the fire. What to Eat.

FARMER'S PUDDING.

One quart of milk, one cup of corn meal, one cup of currants or raisins, one cup of chopped suet, one-half teaspoonful of salt, one teaspoonful of sugar, one-half cup of flour, one teaspoonful of baking powder. Put the milk in a double boiler over the fire. When hot, stir in the corn meal and cook until smooth and creamy. Take from the fire, and when cool, add the currants, suet, salt, ginger and the flour and baking powder sifted together. Mix well, turn into a greased mould or kettle, and boil or steam three hours. Serve hot with apple pudding sauce.

STUFFED EGGPLANT.

Cut an eggplant in two and scoop out the inside, leaving a wall about an inch in thickness. Chop up what you have taken out with half a cup of breadcrumbs, season with pepper and salt and a very little nutmeg. Soften the mixture with half a cupful of weak stock, put in a tablespoonful of melted butter and beat it with a wooden spoon, then fill the eggplant with the mixture and put them in a pan, pouring about them a cupful of well-seasoned stock. Bake for an hour, basting often, then sprinkle the filling of the eggplant with crumbs and bits of butter and leave the pan in the oven long enough to brown the crumbs. Transfer the eggplant to a hot dish and thicken the liquid in the pan with a tablespoonful each of butter and flour, cooked until smooth. Pour this over the eggplant in the dish and serve.

DATE PIE.

This is the aristocratic cousin of the old-fashioned pumpkin pie. To make it, take half a pound of dates, boil tender in a small quantity of water, put through a colander, add one egg, one tablespoonful of cornstarch or flour, a little cinnamon and one pint of milk. Bake with one crust.

HINTS TO HOUSEKEEPERS.

For New Century plum pudding take one-half cupful each of butter and sugar, three eggs well beaten, two cupfuls of flour, three teaspoonsful of baking powder, 14 cupfuls of milk and one cupful of raisins chopped fine. Cream the butter and sugar, add the eggs, gradually sift the flour and baking powder together, and add alternately with the milk. Add the raisins last, and bake in a moderate oven. Serve with any good rich sauce.

For all the orders for soup that come in the cook goes first to the big boiler. In it come consomme? From a big pitcher the cook pours into the clear stock some brown thickening fluid. Is it macaroni? A pot of boiling water is near at hand, and he forks a few strings into the bowl. Is it ox-tail? He lifts the lid of a big boiler of clear soup, made by boiling bones and scraps of beef, mutton, chicken and veal together. Out of this he dips a bowl of soup, and into the bowl he pops in quick succession a little from each pot of boiled vegetables he is serving for that day. He gives it all a stir, and presto! there is your vegetable soup.

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Poetry.

Miscellaneous.

A Ray of Sunlight.

The OLD AND NEW.
Ring out beneath the midnight sky,
O bells so sad and slow,
To bid the dying year goodby,
Ere to the past it go.
Yet soon a lively tune you play,
And bid farewell to sorrow.
You seem to voice the coming day
The new year brings tomorrow.
Until we see the waking flowers,
We hear the wild birds singing,
And feel within our hearts the hope
That sunny hours are bringing.
Ring on, ring on, O echoing bells,
Though fast the suns are falling;
The sadness of the future hours
The olden joys reciting.
Merrimac, Mass. J. B. M. WRIGHT.

A CHARACTER SKETCH.
I knew a man who thought he knew it all,
He knew how earth became a rolling ball;
He knew the source and secret of all life;
He also knew how Adam came to fall.

He knew the causes of the glacial age,
And what was that made the deluge rage.
He knew—in fact, he knew most everything;
In his own mind he was earth's greatest sage.

His knowledge was of such stupendous girth
It took in everything upon the earth.

And in the heavens; but, most strange of all,
He didn't know a thing of real worth.

He knew where people go when they are dead,
He knew all wonders ever sung or said.

He knew the past and future; but for all
He didn't know enough to earn his bread.

He was a marvel of omniscience.

He knew the secret of the hence and whence.

He was a bundle of great theories:

The only thing he lacked was common sense.

—J. A. Edgerton.

STUYVESEN VAN RENNSELAER.
When Stuyvesant Van Rensselaer
An airing is to take,
(Now Stuyvesant is four years old,
But what a fuss they make!)

The governess informs the nurse,
The nurse informs the page,
The page informs the butler (pray
Remember Stuyvesant's age?)

The butler tells the footman, and
The footman tells the groom,
And the groom tells he coaches him,
(And this concerns just whom?)

(All this concerns young Stuyvesant
Van Rensselaer, of course!)
The coachman tells the stable boy
Who tends to Stuyvesant's horse.

When the coachman and the carriage,
And horse are at the door,
Then Stuyvesant Van Rensselaer
Goes driving. (He's just four!) —Life.

THE MOTHERLOOK.
As one whom his mother comforteth.—
Isaia, lxvi, 13.

You take the finest woman with th' roses in her
cheeks,
An' all th' birds a singin' in her voice each time
she speaks;

Her hair all black an' gleamint, or a glowl'
mass of gold—
An' still th' tale o' beauty isn't more th'n half
way told.

There ain't a word that tells it; all description it
defies—

The motherlook that lingers in a happy woman's
eyes.

A woman's eyes will sparkle in her innocence
an' fun,

Or snap a warnin' message to th' ones she wants
to shun.

In pleasure or in anger there is always han'-
someness,

But still there is a beauty that was surely made
to bles—

A beauty that grows sweeter an' that all but
glifiess.

The motherlook that sometime comes into a wo-
man's eyes.

It ain't a smile, exactly—yet it's brimmin' full o'
joy.

An' mettin' into sunshine when she bends above
her boy

Or girl when it's a sleepin', with its dreams told
in its face;

She smooths its hair, an' pets it as she lifts it to
its place.

It leads on th' expressions, whether grave, or
gay, or wise—

The motherlook that glimmers in a lovin'
woman's eyes.

Brilliants.

Let us be patient, you and I;
Let us like watchful guardians, make
Our hearts a haven for the sake
Of those that drift, they know not why.

Let us be patient. Let us keep
Our watch-fires faithful as God's stars,
Whatever storm or shadow mars
The breadth of life's uncertain deep.

Let us be patient. Let men trace
No frown, no insincerity.

In skies of ours, that all may see
God's presence in his child's face.

—Frank Walcott Hutt.

"I've learned as days have passed me,
Fretting never lifts the load,
And that worry, much or little,
Never smooths an irksome road.

For you know that somehow, still and live,
Doors are open, ways are made,

When we work and live in patience
Under all the crosses laid."

Let love but my love without disguise,
Nor wear a mask of fashion old or new,

Nor wait to speak till I can hear a clew,
Nor play a part to shine in other's eyes

Nor bow my knees to what my heart denies;

But what I am, to that let me be true,
And let my worship where my love is due,

And so through love and worship let me rse;

For love is but the heart's immortal thirst.

To be completely known and all forgiven,
Even as sinful souls that come to heaven,

So take me, love, and understand my worst,

And pardon it, for love, because confessed,

And let me find in thee, my love, my best.

—Henry Van Dyke, in Outlook.

The Books say well, my Brothers! each man's
life

The outcome of his former living is;

The bygone wrongs bring forth sorrows and
woes.

The bygone right breeds bliss.

Ye are not bound! the soul of Things is sweet.

The Heart of Being is celestial rest;

Stronger than we! that which was Good
Both pass to better—Best.

What has been brought what shall be, and is,

Worse—better—last for first and first for last;

The Angels of the Heavens of Gladness rear

Fruits of a holy past.

—Sir Edwin Arnold, in "Song Celestial."

In patience as in labor must thou be,

A follower of Me, in the Independent.

Whose hand and feet, when most I wrought for
thee,

We're nailed unto a tree.

—John B. Tabb, in the Independent.

There ain't a picture of it. If there was they'd
have to paint

A picture of a woman mostly angel an' some
saunt.

An' make it still be human—an' they'd have
to blend the whole.

There ain't a picture of it, for no one can paint a
soil.

No one can paint th' glory comin' strait from
paradise—

motherlook that lingers in a happy woman's
eyes.

—W. D. Nesbit, in Chicago Tribune.

Youth's Department.

QUERY.

When comp'ny comes to visit us
We all makes lot's o' fuss,
An' use our bestes chins set
An' solid steel forks, you bet!

Not eatin' pie is too nice to bake—
It's jest becuz they're round! But, say,

Why ain't we jes' as good as they?

Ma, she puts on her rusty dress,

An' pa shaves twid a day, I guess,

An' shines his shoes, an' I'm wear

My Sunday red tie everywhere!

We're all politi' we can be,

An' no one's cross or putkeye.

It's different when they've gone away—

But ain't we jes' as good as they?

I continued my writing, glancing occasionally
at the clock, and finally I said:

"I'll be hanged if you won't have to watch that
door tomorrow and keep out everybody except
those who come to pay bills."

"How shall I know them?" said a soft voice,

whereupon I swung back, that sun ray so dazzling
my eyes that I could see but an indistinct object in the further corner.

Gradually the shape resolved itself into a blushing
maiden boy spent all his time in the woods.

He loved the woods and all that was in them.

He used to look, not at the flowers, but deep down
into them, and not at the singing-bird, but into its eyes, to its little heart; and so he got an insight better than most others, and he quite quitte up collecting birds' eggs.

But the woods were full of mysteries. He
used to hear little bursts of song, and when he
would stop to listen, he would hear the voices of
noises and movements would just escape him.

"Humph!" I ejaculated, with growing interest;

then I remembered myself—

"Excuse me, but I had given orders that no
one should be admitted, and I expected only my
boy. What can I do for you? Be seated.

—Edwin L. Sabine, in Woman's Home Companion.

The Fairy Lamps.

There was once a little bare-legged, brown-
ing boy who spent all his time in the woods.

He loved the woods and all that was in them.

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into them, and not at the singing-bird, but into its eyes, to its little heart; and so he got an insight better than most others, and he quite quitte up collecting birds' eggs.

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boy. What can I do for you? Be seated.

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And when the tenants come to pay their
rents, rent.

They bring some fowl at Midsummer, a dish of
fish in Lent;

At Christmas a capon, at Michaelmas a goose,

And something else at Whitsunide, for fear their
house fly loose.

It was standing.

"Thank you, no. In Justice to your employees,

I must tell you the rooms were empty, so I can
serve only to your door."

"Only—I had forgotten." "Well"—with a
glance at the unfinished letters—"how can I
serve you?"

"I want something to do," she said, and then
I was reminded of the first knock.

I groaned inwardly. She was the fourth who
had called hunting for "something to do."

"Have you ever worked on a newspaper?" I
asked, feeling sure this would end the interview.

"Oh, no; but I can," earnestly.

"What can you do?"

"Oh! anything," quite innocently.

"But," I said, growing restless, "suppose we're
supposed to put you to typesetting; what would
that be?"

"Oh! I would do it."

"Really?" I was desperate, and that sun ray so dazzling
my eyes that I could see but an indistinct object in the further corner.

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The Horse.**Raising Colts.**

I wean my colts at about four months of age, and put them in a box stall, where I can handle and tame them. If they have not been halter broken, this is one of the first lessons. My experience is that to teach them to eat apples, oats and ground feed, is a great help to them, and for a drink I give warm water with a handful of shorts in it, giving them drink four or five times a day. I also feed grass, and coax them to eat, so they will not fall away. As soon as they get to eating well I give them what grain, mostly oats, they will clean up, and two or three times a week I give apples or potatoes cut fine. If possible, I turn them into a large, sunny yard for several hours every day. If not, they can be well exercised to the halter. I aim to raise a good, strong, healthy colt, either for speed or draft; and for the first year I treat them about the same. Later, to develop speed, I give the colts with trotting blood some light, regular exercise, to help develop muscle, and am careful not to over exercise them.—W. H. Hall, Dover, Me.

The Demand for Horses.

The extension of trolley roads into the country, and the growth of population along them, in some instances caused more horses to be kept, as some families who move to the country spend, in the keeping of horses, money formerly used in the paying of rent.

As a result of general prosperity, also, some families have been enabled to own country places, and many to keep more and better horses, both on the farm and in the city. The great demand since 1895 for wheat and other cereals for export calls for the use of more horses and mules to cultivate the land. The increased call for beef and animal products, for home consumption and for exportation, requires the production of increased quantities of corn and hay for feeding purposes, and indirectly necessitates the employment of more horses and mules on the farm. These have been the most potent factors in creating a demand for horses. Prices began to advance slowly about 1897, and since that time have risen sharply, as is shown in the table of average values given by the Department of Agriculture.

The year 1903 has been one of speed not only in trials against time, but in races, so we must look farther than the wind shield and pace following for the cause. The future will show that one great reason for the increase comes from improved training. We are only just beginning to learn, writes Frank G. Trot in the Boston Globe, how to prepare a horse, either for a race or an attempt against time. How many trainers who fit horses as they did a dozen years ago get one inside the money nowadays? Very few of the old-guard trainers are able to get a horse to the races at present, and important that the average trainer has changed greatly in the past few years. The changes have been brought about so slowly and taken singly have been so unimportant that the average trainer has not noticed them, and has unconsciously drifted along. The tracks are better cared for than ever before. It is a rare piece of earth that remains fast without lots of water and a vast amount of harrowing, brushing or floating. At Memphis, where fourteen world's records were made in eight days, A. M. Howe, the superintendent, works about a dozen men and twenty mules from sunrise until dark. Another thing that gives us so many fast miles this year is the attention owners and trainers have been giving to getting records. Lou Dillon, from the day of her purchase last May by Mr. Billings, was prepared with only one object in view—the world's record for trotters. Dan Patch was trained for the sole purpose of dethroning Star Pointer. Early in the season it was found that Major Delmar could get no races, so the only thing to do was to get him ready for a try at the watch. The gelding record, 2,034, was the desired object. Then, he came on faster than any one thought him capable of, the trotting crown was sought. This he never secured, but he finally landed inside the two-minute mark.

The colt should be taken from its dam at 3½ to four months old, for if allowed to follow her longer it will not, in my judgment, be of any particular advantage to the colt, and if the mare is a regular breeder it will not only be a tax on her health and condition, but will dwarf the coming colt.

It is well in weaning a colt, when possible to do so, to place it in a box stall beside the mother's stall, as it will be much more quiet and contented if it knows its mother is near.

The colt should be taught to eat oats with its dam before weaning time. This can easily be done by feeding in the pasture, using a large, low box and scattering the oats over the bottom so the mare cannot eat them very fast, thus giving the colt time to nibble the oats.

Good Crops on Muck Soil.

Within recent years large areas of these muck lands of Allegan County, Mich., have been drained and reclaimed and are now under systematic cultivation. The Clyde Swamp has been almost entirely drained within the past eight years, and is now laid out in extensive farms cultivated to peppermint, truck crops, grains and grasses. In Allegan County the production of peppermint oil is the most prominent industry on the muck soils, and this crop forms part of a rotation of rough feeds for cattle. Gun Marsh is only in small part reclaimed, and the other scattered areas are variously utilized. Along the rivers and streams heavy cuttings are made of a coarse swamp grass, which is used as winter forage for cattle and horses. Where the soil is thoroughly decomposed excellent crops of corn, hay and barley may be grown, but one difficulty with the corn crop on muck soil is the tendency to late fall growth, and consequent damage by early frosts. Wheat is not produced by reason of its great tendency to winter-kill or lodge.

Among truck crops, cabbage and onions are prominent, the former yielding sixteen to twenty tons per acre, the latter from six hundred to nine hundred bushels. Besides these, small quantities of other vegetables are produced. Sugar beets are not a success, their greater size being had at the expense of sugar content and purity. Potatoes are not extensively grown, but they yield heavily and merit more attention. While the crops mentioned will probably continue of prime importance, there seems no reason why celery should not be produced on a large scale in Allegan County as profitably as in other sections of the State. At present scarcely any attention is given to the crop. Large areas of muck

convenient to the railroads still await improvement.

Cabbage and onions are other crops grown to some extent on muck soils. Both are more or less profitable, depending largely on market facilities. The former yields from sixteen to twenty tons per acre, the latter from six hundred to nine hundred bushels per acre. The illustration shows one of the largest onion fields in the county. The price of onions fluctuates widely, rendering them a somewhat uncertain crop, but they are undoubtedly a profitable crop, taking one year with another.

Notes from Washington, D. C.

White corn smut is not an attractive sight in a field, and while in some cases it causes considerable loss, possibly \$100,000 a year in some of the corn States, there is one evil charged up against it, to which it is not entitled, said one of the officials of the Bureau of Animal Industry, in connection with a general discussion of corn as a stock food, and the fact that many farmers depend on it to an entirely too great extent and fail to realize the advantages of properly balancing their food ration. I know, he said, that the opinion is more or less general that eating corn smut injures cows. A number of years ago this bureau made a food test of large quantities of corn smut to two heifers. They were fed along with their regular grain ration about four pounds of corn smut daily for over two weeks. No effect whatever was apparent. The Michigan station, some years ago made a similar and more exhaustive test. Various amounts were fed to four cows, three Shorthorns and one Jersey, in addition to their grain ration. Two of them were fed as much smut as they could be induced to eat, finally reaching eleven pounds a day, evidently more smut than they could possibly get in foraging over a corn field after the removal of the crop, or in stables in winter when fed exclusively upon corn stalks as coarse fodder. The smut was fed for forty-nine days and relished by the cows. No unusual result whatever in temperature, milk yield or general health was perceptible.

Analysis of corn smut shows that it resembles coarse fodders, and contains considerable nutritive qualities, and no poisonous constituents.

Reports from Consul Günsenius state that the potato crop of Ontario is large. The average yield of potatoes in this province for the last twenty-one years is 115 bushels per acre. The crop usually follows clover sod, which is plowed late in the fall, the land being harrowed, cultivated and gang plowed in the spring. Planting takes place in May.

Consul Cuneo, at Turin, Italy, in a consular report describes the Italian chestnut trees and states that over \$12,000 worth of these chestnuts were imported into the United States last year. These chestnuts are almost as large as our horse-chestnuts. In Italy they form an important article of food. He describes the manner in which the Italians graft and bud the good varieties on to common stock, and thinks there is no reason why the crop cannot be grown commercially in the United States.

A large number of chestnut groves in different parts of the United States are now producing Italian and Spanish chestnuts, and new groves are constantly coming into bearing. The usual method probably in this country is grafting, although the chestnut can be either grafted or budded. This process is believed to be no more difficult than apple grafting. The writer secured from the late Professor Saunders of the Department of Agriculture a young and thrifty Paragon hybrid, a cross of the Spanish chestnut on the American sweet chestnut and one of the best flavored of the large chestnuts—and planted it in a gravelly situation. It should be borne in mind that chestnuts need a gravelly or loose under-soil into which the tap root can penetrate. This tree has grown somewhat slowly, but has borne very fine fruit every year, and numerous grafts have been cut from it to use upon the common wild chestnut. There are no chestnut trees in my woods. In order to get some improved chestnut trees into immediate bearing, I selected a number of scions, and picking out wild chestnut trees in a piece of woodland near by, with diameters of two or three inches, sawed them across about six feet from the ground and inserted the scions. These took well, and it then became an easy matter to transplant the trees onto the place.

Where chestnut trees already grow in your own woods, the way to secure a highly profitable chestnut grove is to cut off the old trees, whereupon sprouts will spring up, which, after a couple of years growth, can be grafted to improved varieties. I don't know much about the commercial feature of chestnuts, but I think I would rather have ten acres of cut-off chestnut land in bearing Paragons than ten acres of Florida orange grove.

The startling information is announced that the Deutschen Solvay Werke Aktien-gesellschaft is beginning to mine potash in Saxony. It is hoped that the D. S. W. A. will not get into the habit of advertising extensively in this country.

The recent dry weather and low-water conditions in many sections of the country, resulting, as it is claimed, in numerous cases of typhoid and malarial fevers, almost amounting to an epidemic in some States, directs attention to the necessity for the exercise of great care in water drinking. As the country becomes more and more thickly settled there is increasing danger

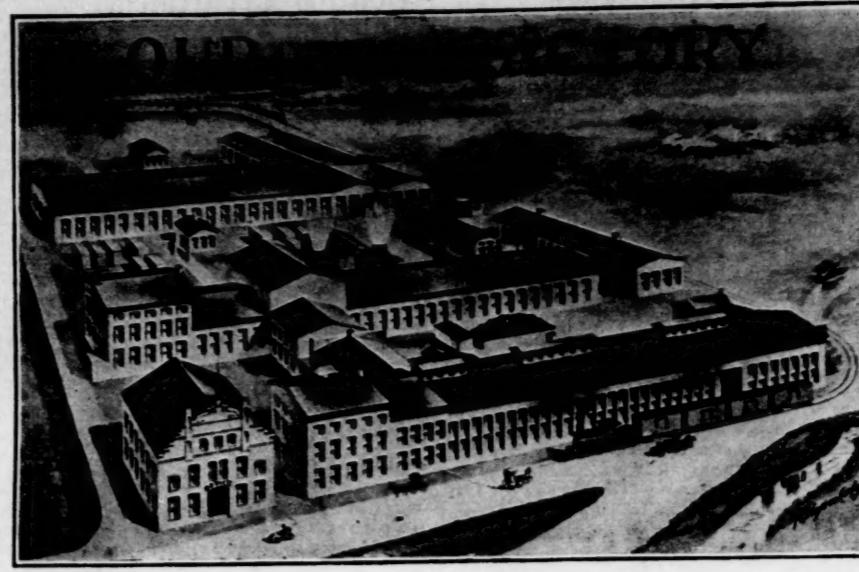
Warranted to Give Satisfaction.
Gombault's Caustic Balsam

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A Safe, Speedy and Positive Cure for
Cuts, Splints, Swelling, Capped Hocks,
Strained Tendons, Founder, Wind
Puff, and all lameness from Spavin,
Hock, and other diseases, and
Cures all skin Diseases or Parasites.
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Spoonworms, Tick, etc. is Larvicide.
Every bottle of Gombault's Balsam sold is
Warranted to give satisfaction. Price \$1.50
per bottle, post paid, with full directions for
use. Send for descriptive circulars.
The Lawrence-Williams Co., Cleveland, O.

THE CUTAWAY HARROW COMPANY'S WORKS.

These works, as illustrated herewith, are located at Higganum, Ct., U. S. A. The buildings were mostly erected between 1880-85. Their present floor space is nearly or quite seven acres. Their motive power is water. They are located on-quarter of a mile from the main track of the Connecticut Valley Railroad with which they are connected. They are also within a stone's throw of the Connecticut river, a navigable river and town or more or less distance away, in fact, in ocean steamer can load at these docks for any foreign country. The company is also enabled by its water connections to obtain all its supply of coal, iron, as well as heavy incoming freight, which enables it to easily compete with any outside manufacturers.

The Cutaway Harrow Company is the sole manufacturer of Clark's machine of every kind, Cutaway Harrows, Disk Plows, Right Lap Gang Plows, Cutaway Sulky Disk Plows, Reversible Sulky Disk Plows, Complete turning Disk, Gang Plows and hundreds of sizes and kinds of Cutaways and Solid Disk Harrows. They also make the Celebrated Double Action Cutaway Harrows, the only Double Action Disk Harrows made, in fact, they are the only manufacturers of Clark's Cutaway or other machines for working any kind of earth. They also manufacture a very large line of general agricultural tools and other machinery, Reversible Disk Plows, Common Plows, Side Hill Plows, Root Cutters, Sampson Tobacco Presses and Jacks, Dutton Mower Knife and Machine Tool Grinders, also other Grinders, Acme Cutting Nippers, Cedar Mills, and other machinery of which they ship hundreds of carloads annually to various points in this country, while they are also large exporters and shippers to every civilized country on the globe.



of contamination of sources of water supply. Experts state that conditions of low water invariably bring with them typhoid and kindred fevers. The Department of Agriculture has an interesting little publication which shows how any housewife can furnish the household with typhoid-free water—distilled water—from which every possible germ or impurity has been eliminated. The apparatus for this distilling can be constructed at a cost of \$5. Upon the ordinary kitchen stove, it will furnish from seven to twenty gallons of water per week, according to the constancy of the fire. Distilling water is nothing but condensing the steam created by boiling it, and the apparatus in question is simply a connection between the spout of a tea kettle and a large cylinder into which the steam from the kettle rises, and as it becomes cooled, condenses into water and runs down into a tank below from which it can be drawn off for use.

Ordinary boiling of water makes it as wholesome and free from disease-producing bacteria as distilling it, but it leaves it with a somewhat flat taste, which is unpleasant to most people, at least until they have become used to it. It would be a wise precaution, however, to boil all the drinking water if there is the least question as to the source of supply. It is generally conceded among physicians that the use of distilled or boiled water for drinking purposes would insure much less disease.

The man has been caught who started the story that the largest tomato placed on exhibition this year in Missouri weighed 2½ pounds, but that since the frost has already killed the vines, it is impossible that any other specimen of the fruit will ketchup before 1904.

GUY E. MITCHELL.

Smoking Fish.

A dealer in sea food, who has had years of experience in handling fresh water fish as well, says the operation requires but ordinary skill and care. The raw fish are thoroughly cleaned and placed in salt brine for ten hours, or less, according to the degree of saltiness one desires them to attain. When taken out of the brine, they must be allowed to dry off thoroughly, after which they are placed in the smokehouse, over a hickory or maplewood and sawdust fire, or some hardwood sawdust alone. Pine sawdust will not do on account of its pungent odor. Here the fish may remain for from five to six hours, the length of time depending upon the owner's inclination to a deep salmon or darker color. Just before taking the fish from the smokehouse, the fire should be started up so as to cook them. At this point particular care must be exercised in order that they may not overcook and fall apart.

Utilizing the Elm.

On many of our New England farms the elm tree is everywhere. It is generally classified among the nuisances that have to be endured. But any one who has ridden under the patriarchal trees which border the main street of old Hadley, or who has contemplated the magnificent specimens which wave their branches above many of the old farm houses of New England, must agree with the great French botanist, who proclaimed the elm to be the most magnificent vegetable product of the temperate zone.

And here, before passing to discuss the value of this tree to the farmer, from a purely utilitarian standpoint, let me state, with almost reverent feeling (I have traveled hundreds of miles twice to enjoy the sight of the patriarch, as one of my principal objects) that there stands on the common in Wethersfield, Ct., what is doubtless the grandest representative of the race, a tree 125 feet in height, fifty-three feet in circumference of trunk, measured at the ground, with a diameter of 15 feet in the spread of its limbs, which, with an allowance of 1½ feet for each individual, could throw protecting arms over an army of more than eleven thousand men.

Of the hundreds of elm trees scattered over the pastures and in every waste spot of my seed farm, I have opportunities to utilize outside their value as fuel but a very small number. I have found a limited call for them by wheelwrights for use as wheel hubs, and I have used them when sawed into planks as flooring for my cows and oxen to stand on. Their tendency to warp renders boards or planks made from them comparatively worthless for any floor work, and their liability to rot where they come in contact with the earth makes them equally worthless for use in plank walks. Several years ago I found myself with a cord or so of elm logs on hand that averaged about ten inches in diameter, the smaller sticks having been disposed of to some young men at a low figure for firewood. Every farmer knows that elm logs of that size, owing to the intertwisting of the tough fibres, are about unsplittable. It occurred to me one day, after the heap had lain for four or five years and the bark had long dropped off, to try their value in my fireplace. I did so and the result was very satisfactory, for the wood, being dry and somewhat oily, with help from a little pine material to start with, burnt much like charcoal, with little flame but a bright red coal, until every particle of the ten-inch logs was consumed.

This season I have been experimenting with green elm wood from trees cut down within a month. The logs used averaged about four inches in diameter and were burnt in my fireplace in the usual two-foot length. By using some pieces of the boxes or better yet, three or four barrel staves to start the fire, having first piled a few of the smallest

sticks of about an inch in diameter on top, I have very satisfactory results; the green elm has burned very readily, giving a good blaze and sending out an intense heat. There is just one precaution needed, as is the case with all varieties of green wood with which I am familiar; the fire needs to be well fed, so as to have a good body of wood on it all the time. I have found it a good plan to throw two or three fresh sticks over the back log and keep bringing these forward as I add new ones. Thus by using the big logs, when so old and dry as to be dry, and the smaller ones when green, without having an axe battle with so obdurate a foe, beyond, subduing him to civilized lengths, wife and I, on Sabbath afternoons, get great enjoyment sitting before our library fire, which, by reason of its pleasant flame and cozy warmth of texture, allures more of our attention than do the books in hand. J. J. H. GREGORY.

Essex County, Mass.

In some localities it will pay well to haul or ship the logs to large wheelwright concerns which pay fair prices for elm logs of the required sizes, the supply often being unequal to the demand.—ED.

In Southern Vermont.

Streams are low, springs also. The Connecticut is very low for the time of year, which causes serious hindrance to business. In spite of snow on the ground and all the features of winter, one bears almost continually. "How dry it is," and the complaint is general throughout the State.

The Grange seems to be in a healthy and promising condition in this section. Fall Mountain at Bellows Falls, a new Grange, is in a flourishing condition. Robert Foster will be installed as Master for a second term Jan. 5, George Halliday, lecturer, Miss Nellie Brown lecturer. Saxtons River Valley Pomona, a new pomona formed Dec. 5 by Worthy State Master C. J. Bell, took in forty-one members at Saxtons River, Dec. 17. They also elected officers for the next year: Master, George Halliday, Bellows Falls; Lecturer, Mrs. J. H. Clark, Westminster West; Secretary, J. F. Alexander, Jr., Saxtons River. There are three Granges in this town of Rockingham—Fall Mountain, Bellows Falls, Saxtons River.

Pleasant Valley is the oldest and a superb Grange, doing splendid work. It would gladden the hearts of the former principals of Vermont Academy at Saxtons River if they could see some of their former pupils' part in the literary work of Pleasant Valley Grange. I think they would say: "Surely our bread cast on the waters has returned after many days." Since their recent election, the following represent the Grange for 1904: Master, Bert Damon; Lecturer, Mrs. Charles Albee; Secretary, H. B. Webb, who has served them so well and so long. The Granges are doing good work in elevating the communities where they exist. "Whatsoever is good, pure and uplifting is legitimate Grange work," according to State Master Bacheader of New Hampshire.

CHARLES A. FARNSWORTH.
Bellows Falls, Vt.

Success in Grass Culture.

George M. Clark of Connecticut, known as the man who grows eight tons of hay per acre, addressed the agricultural students and others at the Rhode Island College, Kingston, Dec. 18. Mr. Clark said, in part, "that he was here to show the young men how to make money growing grass. It was not all book education. They must learn to do some one thing and do it well."

"The time has come when the farms must be more intensely cultivated. With the old methods we can no longer succeed. The more we stir the soil the better the crop. Intense cultivation is necessary for large crops of any kind; fully as necessary for the cultivation of all other crops as for grass. A fine seedbed doubles the product. Hay in this country is annually worth more than corn, cotton, wheat, oats and rye combined. Science must step in to keep up the supply. We must have intense cultivation to succeed. I move the earth on my fields in two months, just before sowing at least fifty times six inches deep, back and forth, up and down, over and under, and at the same time keep the surface true that we may cultivate to an even depth. This process reduces all sod or other vegetation to plant food, sprouts and kills out foul germs and lets in sunshine. This is intense cultivation.

"There is much talk about worn-out lands. If we will work ourselves and make our horses work with good tools, we will soon work new life into the soil. I want the young men and women to stay on the farms at home. All the good Government lands are occupied. There is no better land to be had right here. Most of the old farms are large enough to divide. You can make money here. It is not necessary to have a large amount of land. Most of us are land poor. There are thousands of money-making farms in this country of less than ten acres each. As a rule, the small farms make the most money. Look at the prosperous truck gardeners. Intense cultivation does it.

"There are many facts in grass culture which it is well to remember. Red-top and timothy when sown together will produce 1½ tons per acre more hay than when sown by themselves. These grasses work well together, but should be reseeded once in five or six years. They should be sown Sept. 1. This is the time they would reseed themselves. All of the seed on one piece should be sown the same day that all

J. C. KEITH

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